

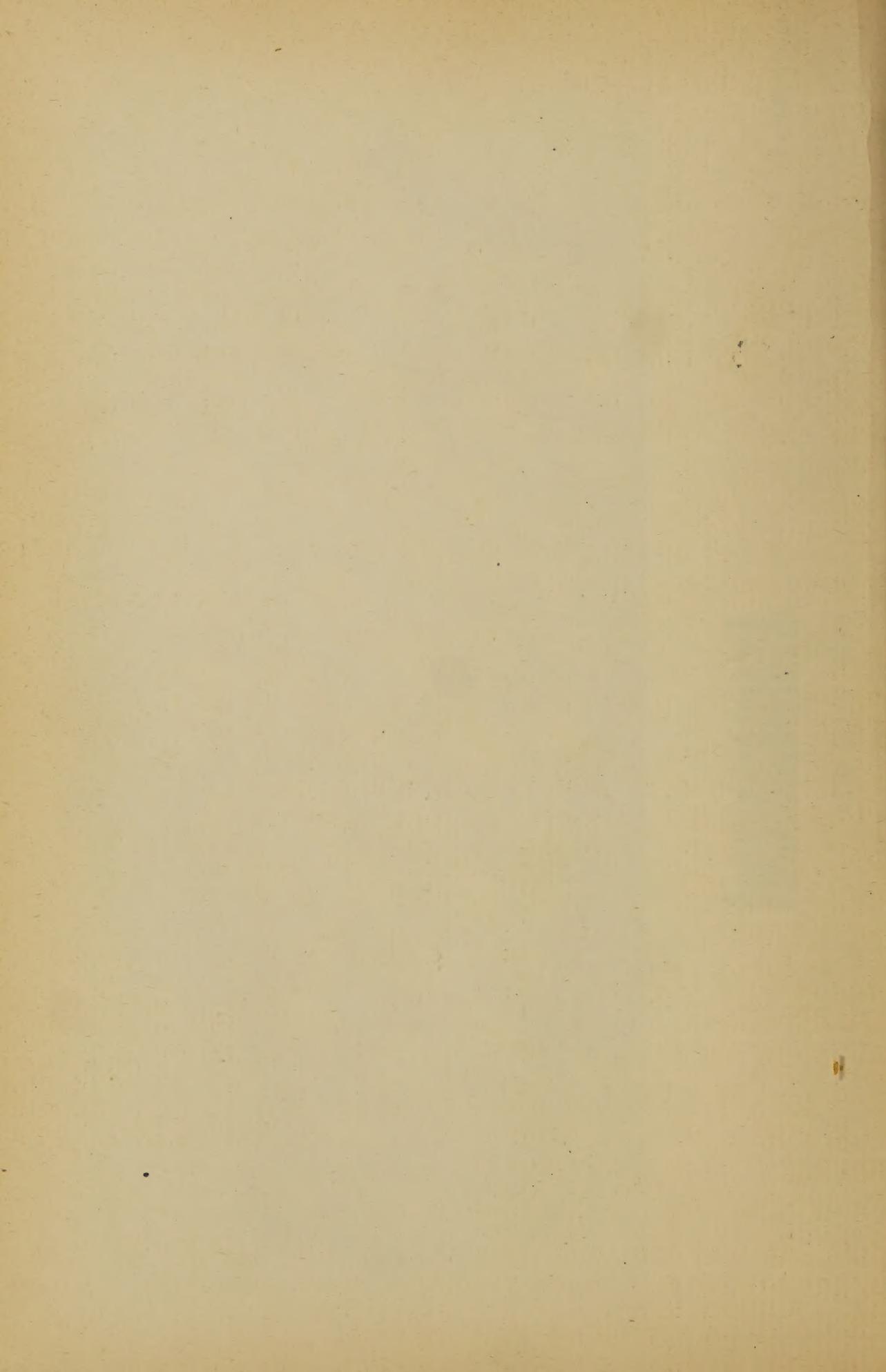
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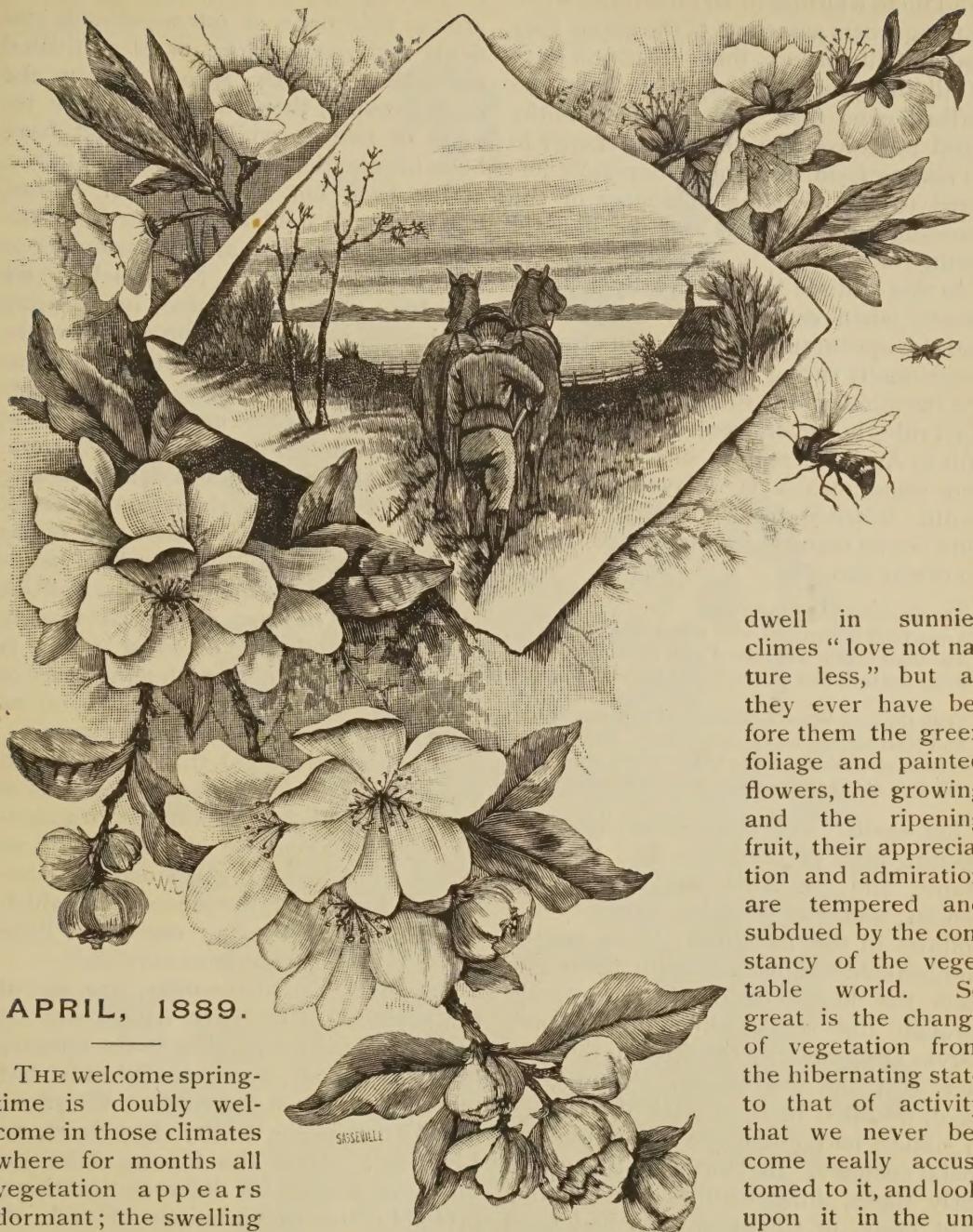
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THE DIAMOND.







APRIL, 1889.

THE welcome spring-time is doubly welcome in those climates where for months all vegetation appears dormant; the swelling buds, the greening

grass and opening flowers, all are noted with feelings of interest and satisfaction by the dwellers of the North, accustomed for weeks and months to snow-covered fields and leafless trees. Those who care the most for plants, and give them the most attention, who watch them with the greatest pleasure, who, in fact, admire them most either in their natural or cultivated state, these are the dwellers at the North. And it is because we are deprived of them for a considerable portion of the year. Perhaps those who

dwell in sunnier climes "love not nature less," but as they ever have before them the green foliage and painted flowers, the growing and the ripening fruit, their appreciation and admiration are tempered and subdued by the constancy of the vegetable world. So great is the change of vegetation from the hibernating state to that of activity that we never become really accustomed to it, and look upon it in the uneventful way, for in-

stance, that we do in regard to the daily return of the sun. The change from night to day is visibly as great, or greater, as that from winter to summer, but the frequency of its occurrence renders us, in a great measure, insensible to it.

In all these changes of nature there is something that sensibly affects the watchful observer, and, for the most part, pleasantly. Even the late autumn time, when the last of the faded leaves come flitting, twirling down, and sudden gusts of wind catch them from the ground and

send them whirling in all directions, when nipping frosts assure us of the spoils they make of all verdure, those "saddest days of all the year," as they have been described, even then, the cheerful, healthy mind perceives the stored up energy in its resting form, and looks hopefully forward to the vivifying influences of the warming sun, the rains and the dews of springtime.

In this latitude March is really a winter month when estimated by temperature and the appearance of vegetation, though occasionally spring makes a fair start by the twentieth of the month, or soon after. As a rule, however, from the first to the fifth of April we reckon our real spring, and sometimes it is delayed until the tenth. When spring has really come she puts out so many signs that there can be no doubt about it.

The Snowdrop and the Violet  
Arose from the ground with warm rain wet,  
And their breath was mixed with fresh odor sent  
From the turf, like the voice and the instrument.

Then the pied Wind-flowers and the Tulip, tall,  
And Narcissi, the fairest among them all,  
Who gaze on their eyes in the stream's recess,  
Till they die of their own dear loveliness.

But earlier still are the swelling and opening buds of the Silver and the Red Maple, and the Alder and the Willow catkins, and the greening grass in the hollows in the meadows; these are the unmistakable signs, and with them one feels the blood coursing more freely through the veins, while the soothed nerves are gratefully sensitive to the contact with the milder air. Strange, indeed, would it be if so marked a change in nature had not made an impress on social customs. In Northern Europe in early times, long before Roman arms held sway, or Christian ways had been taught, our rude forefathers held their ostra or spring festival. When Christianity became a power in that region, this festival of the spring season was molded and made to conform to that most sacred and hopeful festival of the church at the close of the lenten season, but so general and so implanted in the hearts of the people had been the older festival that it retained its name, and we have it yet in Easter.

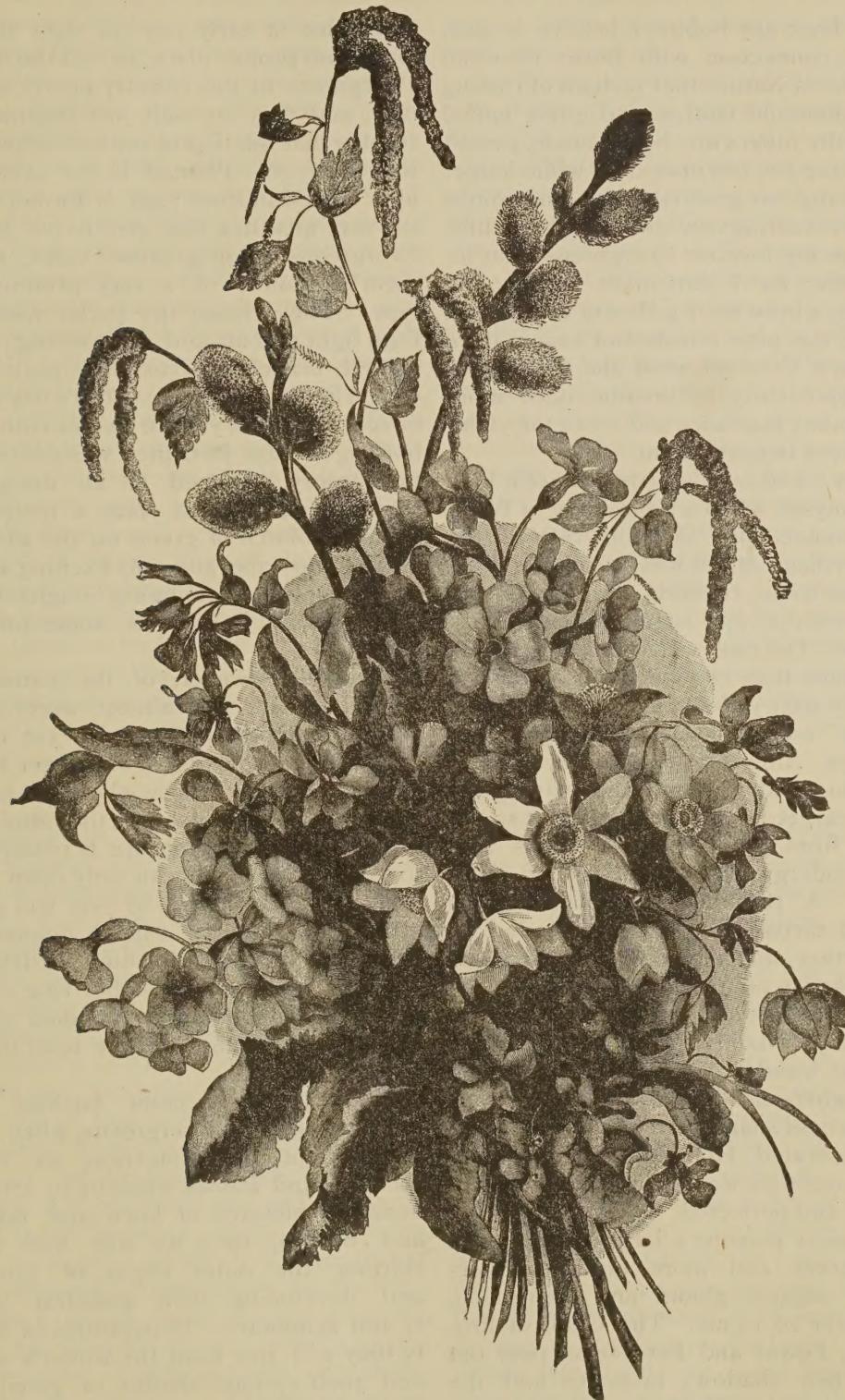
In the true spirit of the day, both from the Christian and the heathen side, it would seem that the flowers most worthy

to be employed for Easter decorations are the wild ones of our woodlands and fields and stream sides, or of cultivated ones, those which spring up in the open ground; these truly signify the revival of nature, while those that have been for months growing under glass are, at the best, but masqueraders. These, however, will hold their place from necessity, since flowers at this season are so greatly in demand. Nevertheless, we may look over the ground, brush away dry leaves, go down to the water brooks and see what is ready waiting for us under the skies of early April. In this region we know of no earlier spring plant than the Colt's Foot, *Tussilago farfara*. In moist places on the banks and among the rocks along the rivers and lakes, it flourishes in great abundance and opens its bright yellow, Dandelion-like heads of bloom even before the snow and ice has gone. The last of March usually finds it gleaming like purest gold. It has thick, fleshy roots, with abundance of stored up nutriment to draw upon as soon as it can push up its flower stem.

Another little plant that is prompt to show its bloom at the earliest moment is the Early Saxifrage, *Saxifraga Virginensis*, usually found on shaded, rocky or gravelly hillsides; a little cluster of obovate leaves from the center of which arises a scape bearing numerous little white flowers, sometimes pinkish.

One of the best known, as, also, one of the prettiest of our early wild flowers, is the Hepatica; grows all over the country in shady woods, even into Florida, but more plentifully at the North. Who does not know it, the pretty Liverwort, or Liverleaf? How the flowers take on different shades in different locations, probably due to variations of soil. A pale lavender is perhaps the commonest hue, but sometimes it darkens up almost to blue, and again is almost white, and between these extremes sometimes has a pink tinge. This plant has never had the attention it deserves as a cultivated plant. Although naturally a woodland plant it grows best in the open places and on the borders, and when cultivated thrives freely in the garden fully exposed. Why not take up this little beauty and give it the place among the hardy plants of our gardens that it appears so well to deserve?

The Pasque Flower of Europe, *Anemone pulsatilla*, is represented in our Western States, and in Canada by *Anemone Nuttalliana*, and in Canada, at least, is commonly



EASTER FLOWERS.

known as Pasque Flower. Its handsome, large, pale purple flowers open in April. This plant, too, should receive more attention in the garden. One who has given no attention to our wild flowers would be surprised to learn how many species may be found in bloom in ten days after the frost has left the ground. And after that time they come into bloom in rapidly increasing numbers.

## EVERGREENS.

If I have any hobby, I believe it must be in connection with those beautiful growths of Nature that instead of casting away their old clothes and going naked while the others are being made, persist in making the old ones do a while longer and change so gradually that one thinks they are wearing new clothes all the while. Perhaps my love for Evergreens is an inheritance, for I remember hearing my mother, whose early girlhood was passed among the pine forests and saw mills of Northern Vermont, wish she could have the opportunity to breathe once more their balmy fragrance and tread the yielding carpet beneath them.

Then I had once a little taste of a Pine forest myself when a school boy in Western Connecticut. A mile west of the broad village street was a singular tract of Pine trees, covering perhaps twenty acres with a few sugar Maples interspersed. The trees were of recent growth, none more than two feet in diameter and possibly sixty years of age, and the "Pine Woods" was a favorite trysting place for the boys. Almost every Saturday we went there to wander around and play on the clean carpet of moss and needles so different from the deciduous woods with their undergrowth and briars and rattle weed. A turbulent mountain stream hurried through the marshy meadow on the further side of the woods and along its banks we hunted muskrats, and if the stream was not swollen by melting snows we would cross it on a bridge of a single log and wander down to the malleable works where currycombs and mouse traps and harness snaps were made, and where the celebrated Hotchkiss rifled cannon and projectiles was even then being invented and perfected.

To many persons a large collection of the darker and more massive Evergreens suggest gloom and depression, but never so to me. The Genii of Protection, Power and Persistency peer out from their shadowy branches and the winds soighing through their tapering tops are not tuned to the slow measures of a requiem, but rather to the happy notes of a lullaby crooned to the birds and bushes and flowers that flourish apace to the sunward and leeward of their sheltering and ever abiding forms.

Ignorance in early days of their habits, value and proper place, put off the day of Evergreens in this country nearly a century, and they are only just begining to receive that intelligent consideration that they deserve. Planted in the seven by nine fenced-in front yard of former days, the very qualities that give to our larger Evergreens their greatest value, made them nuisances of a very pronounced type. They closed the parlor windows from light and air and sight seeing; they locked branches across the path, and were wholly out of place. After a few years of conflict, and a year or two of complete holding of the fort, they were shorn of their glory, trimmed to an unsightly, scarred and hideous stem, a mere, unmeaning blotch of green on the winter's brown landscape, and only exciting attention when the overhanging boughs shook snow down the back of some unwary visitor.

In spite, however, of the numerous object lessons that almost every door yard has afforded, there are yet many cases of the displacing of our larger Evergreens. I know a place where the house and surroundings cost nine thousand dollars, and a Norway Spruce is planted so that the street gate can only open to a right angle which year by year will grow acute until the gate can be opened no more. In the same location an Irish or Swedish Juniper or an Arbor vitæ would have grown to maturity and died of old age without infringing in the least on the rights of the gate.

When people become familiar with the best uses of Evergreens, when they plant them for protection, as backgrounds, and frames wherein to arrange beautiful pictures of lawn and flowers and bushes, then we will find them skirting the outer edges of grounds and developing their grandest beauty and symmetry. In pyramids of beauty they will rise from the winter's snow, and their various shades of green will be noticed and admired. The single line planted merely to repel the winter's blast will gradually widen here and there into promontories and capes by the addition of new specimens, and these, as they grow, will form bays and gulfs and inlets of lawn, diversifying the outline and lead-

ing the owners to wonder how they ever contented themselves with a grass plat whose only boundary was a wooden fence, differing from the adjoining pasture merely in size and styled a lawn through courtesy. Perhaps, when this time comes, ladies will study up on Evergreens, as they now do on flowers, and when they make up their little orders by mail they will send for a dozen little Evergreens half a span long, and plant and water and watch over them with a new interest. They will perhaps learn that transplanting each year causes a wonderful development of roots until in a few years the mass of roots and dirt will make a stout man groan to lift, and that the dwarf Evergreens of the nurseries which seem so small in proportion to the price asked are already old and in many cases past the age when they should have been permanently located. Possibly it may be learned that a group of dwarf Evergreens can be given character by planting a Hemlock or Balsam Fir with them, to be cut entirely away a few years later. It will also be discovered that an injured or broken or overgrown tree

can be sawed off near the ground leaving a single bough which will in a surprisingly short time make a new tree, symmetrical and beautiful.

It will also be learned that the American White or Blue Spruce is our most beautiful specimen tree of the Spruce tribe, that the Nordmann's Fir with its gleaming cast of oxidized silver is not only the most beautiful of Firs but one of the most noticeable of Evergreens. The red Pine of our northern forests (mis-called Norway) will be planted instead of the Scotch or Austrian and the Siberian Fir and the Cembrian Pine will be planted in many collections instead of being rarities as now. The light green of the Swedish Juniper and the gold trimmed *Retinispura aurea*, and the wonderful Golden Yew, which is not green at all, will grace many a little lawn. But why extend the list? Have I not already said enough to start some of the readers of the MAGAZINE in a new and unworked field in which there is an abundance of amusement, instruction and profit?

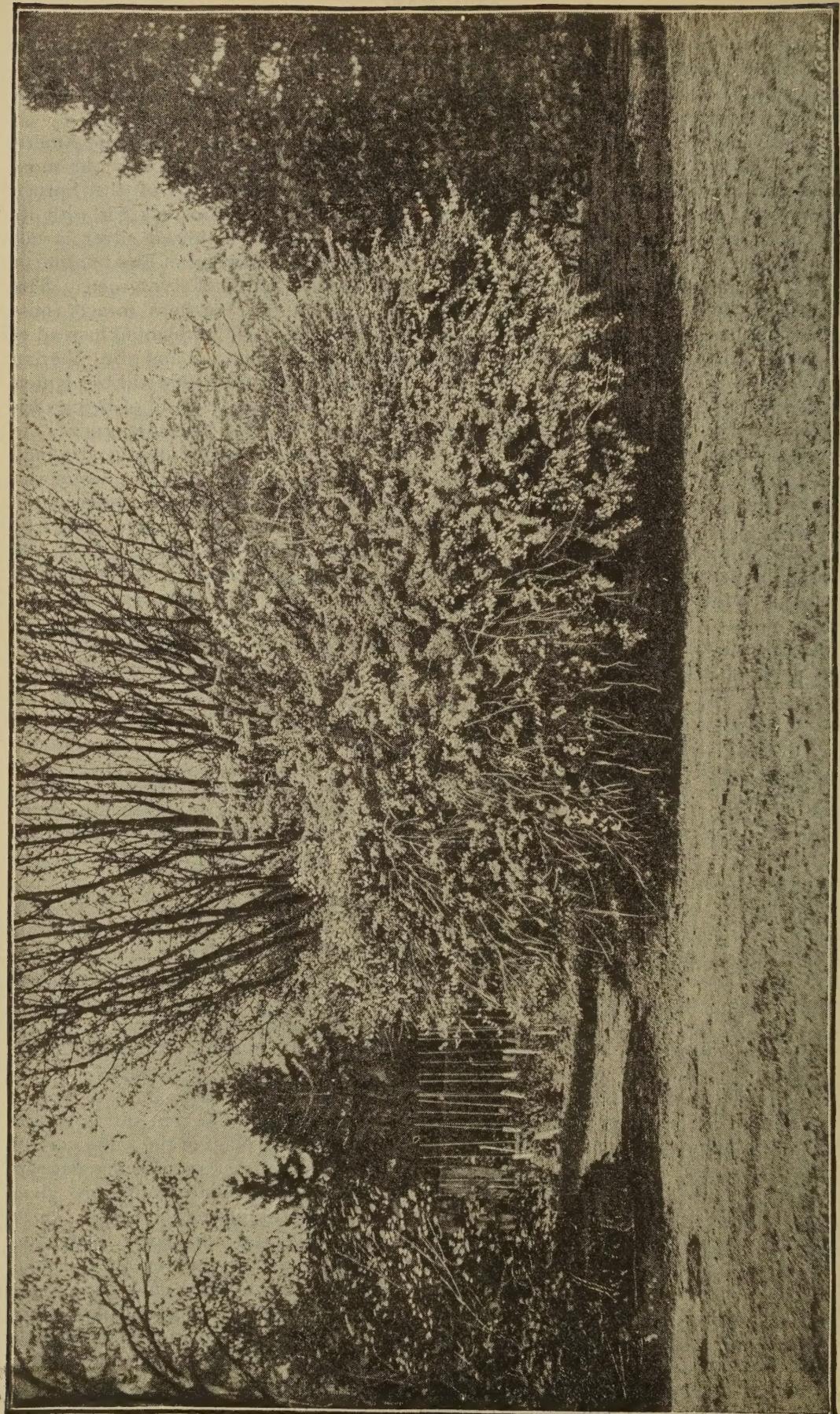
L. B. PIERCE, *Summit Co., O.*

### SPIRÆAS.

Among the best flowering shrubs are the Spiræas, and for general effect and ease of culture they rank next to Hydrangeas. There are many sorts of Spiræas, differing much from each other in size and foliage, and showing a great diversity in form and bloom. The blooms of some are borne in upright spikes or masses of tiny flowers, soft and feathery as a plume; others give long, drooping sprays of leaf and bloom, two feet or more in length; still others flower in clusters dotted thickly over the bushes. Some are single, some double as little Roses, as for instance the Double Plum-leaved Spiræa, *S. prunifolia flore pleno*, of which an engraving is here presented, and which in time becomes a grand mass or bushy clump; some bloom very early, or in middle, or late spring, some in early summer, and others, yet, bloom quite late. The colors generally are shades of white and pink. But with all these differences, there are some traits which all Spiræas show in common. All are hardy, all make a vigorous growth without petting, and most of them are profuse bloomers. I know of no other species of shrub, with the exception of

the Rose, and which, indeed, is almost never counted with other shrubs, which will do so much to beautify the shrubbery border from spring to autumn, as the Spiræa.

Why is it that plants of this class of shrubs are not more commonly raised? Possibly the reason is that many varieties need a year or two's growth to show their true character. I have twice condemned particular varieties of Spiræas as utterly worthless, and afterward time has proven these very ones to be valuable. I purchased one fall a large bush of Spiræa Van Houttei, and the next spring bought a small mailing plant of the same variety, with the nurseryman's glowing description fresh in my mind, both were given prominent positions on the lawn. An accident prevented the large bush from blooming the first summer, but the small one grew like a weed, and gave a few blossoms. I never was more disappointed with anything; instead of the long wreaths of bloom which I had expected, were a few insignificant umbels of single white flowers, so small as not to be noticed a yard away. I thought at first I would dig



AN OLD CLUMP OF *SPRÆA PRUNIFOLIA*.

it up and throw it away, but at last let it stay until fall and then moved it to an out-of-the-way place, thinking someone might, perhaps, want it. The large bush had grown too large to be moved, so it was left. The next year both shrubs bloomed. The small one showed much improvement, though still far from my ideal, but the larger one--how shall I describe it! The long willowy branches were so heavy with blooms that they swept the ground, making the most perfect weeping shrub I ever saw. Every leaf formed a back-ground for a cluster of snow-white blooms. Many passing our grounds came to enquire the name of that shrub which appeared to be a solid bouquet of green and white; and at the marriage of one of my lady friends, her floral garniture of wreaths of *Spiraea* which had been sent her, was much admired.

Again, three years ago, I planted a Golden *Spiraea*, *Opulifolia aurea*, as a contrasting companion to the Purple-leaved Barberry. The first year it was a complete failure; showing not a sign of yellow in its dull green foliage. The next year the leaves were a yellowish green a part

of the season, and last year to my great delight, the first half of the season the leaves were the coveted deep golden color, fading the last half of the summer to a yellowish-green. No doubt, in time, it will remain constant during the entire summer.

I scarcely know which of a half dozen varieties is my favorite. *Spiraea Reevesii*, with its cluster of double Daisy-like flowers, is very beautiful and remains in bloom a long time. Van Houttei, too, is handsome, but for bouquet making the best of all are the feathery sprays of *S. Billardii*, and the herbaceous perennial of *S. Japonica* and *S. palmata*. The more bright, striking flowers used in a bouquet, the more need there is of some soft, spray-like flowers to soften and harmonize the whole. A graceful spray or two of these add an exquisiteness and delicacy also to corsage bouquets, and as those who raise many flowers as a rule give away many bouquets, they will be wise to provide themselves with plenty of *Spiraeas* for cutting. *S. Billardii*, especially, is almost indispensable as it blooms so much later than all other *Spiraeas*, and has such masses of pink flowers.

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## A BOTANIZING TOUR IN THE SOUTH.

NUMBER 3.

Columbia, the capital city of South Carolina, certainly deserves the title of Queen City of the South. It is an elegant little city of thirteen thousand inhabitants. Its broad avenues are lined on both sides with Oaks or Elms, and have usually a third row, or a double row, down the center. One curious thing strikes the new comer, viz.: the fact that except on the business streets the sidewalks are unpaved or unplanked, while even on thinly built up streets the gutters are paved with stone or brick. The city is built upon a range of sand hills and the soil is very easily gullied by running water, hence the paving of the gutters.

Columbia has many elegant homes, but most of these have a decidedly modern, or "Queen Anne" air. The old city of Columbia was treated to a dose of brimstone by Sherman's soldiers in reward for the vehemence of its fire eating citizens, before and during the war.

The state capitol, just completed, is a

noble building, crowning the highest hill in the city, overlooking the romantic Congaree River.

There are but two public monuments of any note in the city. One, the marble shaft in front of the main doorway to the capitol, is the gift of the women of the state in memory of the husbands, sons and brothers who fell in the civil war. The other, an *ante bellum* relic, was erected to the memory of South Carolina's sons who fell in the war with Mexico. This monument is a curious affair. The base is of granite; the shaft, simulating the trunk of a Palmetto, *Sabal Palmetto*, the state emblem, is of bronze; while the sheaf of leaves at the top are real Palmetto leaves, bound to the metallic trunk and renewed from time to time.

Columbia is built upon a range of sand hills just where the sand hills and Piedmont region join. The climate is delightful and very healthy. Aiken, only thirty miles distant, and situated on the same

range of hills, is celebrated far and near as a sanitarium.

The Congaree, a considerable stream, flows between high bluffs on one side of the city and is spanned by an excellent iron bridge. This stream thirty miles further down unites with the Wateree to form the Big Santee. Most of the names of South Carolina streams end in "ee," a peculiarity said to be inherited from the Creek Indians, who formerly inhabited this region.

This region is one of unusual interest to the botanist, and everyone who, like Eddie Ochiltree, loves to "daunder by green shaw and burnside." The sand hills are only sparsely wooded, chiefly with long-leaved Pine, *Pinus australis*, but just across the river where the soil suddenly changes to red and gray clay underlaid by granite, Oaks of half a dozen species, including the rather rare water Oak, *Quercus aquatica*, are abundant, and other magnificent growth. Short-leaved Pine, *Pinus mitis*, as are the Hickory, Dogwood, Tulip tree and Chestnut.

When the white men first came to this region the Chestnut was the most common and stateliest tree of the forest. But for thirty years past the Chestnuts have been dying from some mysterious cause, and now their leafless and withered tops are far more common in woodlands than are the healthy trees. This locality is the northern limit of the great flowered Magnolia in a wild state. Cultivated, it forms the chief ornament of yards as far north as Norfolk, Va.

During May and June the bluffs of the Congaree and the many shaded dells bordering on the river are gorgeously bedecked by the flowering Laurels, *Kalmia*, *Rhododendron* and *Azalea*, and various genera of the Heath family. Of twining plants the most common are Virginia Creeper (*Ampelopsis quinquefolia*), *De- cumaria barbara*, Poison Ivy (*Rhus taxicodendron*), several species of Green Brier (*Smilax*), Crossvine (*Bingonia capreolata*), Trumpet Flower (*Tecoma radicans*), Honeysuckles (*Lonicera sempervirens*), which is a true Evergreen here, and several species of wild Grapes.

Of shrubs, besides those mentioned, there are two shrubby species of Magnolia, *M. acuminata* and *M. umbrella*, *Itea Virginica*, two species of *Hydrangea*, Jersey tea, here called Red root, *Ceanothus*

*Americana*, several species of Raspberry, both Red and Black, and the wild Roses, of which the most common is *Rosa laevigata*, *Eglantine*. The fragrant Strawberry-shrub (*Calycanthus floridus*) is here seen upon its native heath and is fully as fragrant as the cultivated plant.

Of flowering herbs the most abundant during the spring months are three genera of compositæ or Aster-like plants, viz.: *Senecio tomentosus*, *Coreopsis senifolia*, and *C. lanceolata*. All three have golden yellow flowers which they bear in lavish abundance, and carpet the woods and waste fields for miles and miles. Violets, principally the Bird's-foot Violet, are common in the woods as also the Rue Anemone (*Thalictrum anemonoides*). The elegant club-shaped crimson blossoms of *Spigelia Marylandica*, called Pink root, are very plentiful in damp woods as is also the Fly bane (*Amianthium muscætoxicum*). The flesh-colored, spherical heads of *Veronica Virginica* are plentiful on newly cleared ground where the timber or undergrowth has been burned off.

From an agricultural standpoint the country to the west and north of Columbia is, or rather should be, one of the finest in the world. The climate is mild and healthy and the soil is naturally rich and strong. But owing to the shiftlessness of the people and the custom of planting Cotton year after year on the same land with little or no return to the soil in manure, the face of the country presents anything but a prosperous appearance.

The average southern farmer appears to have been created for the express purpose of growing Cotton. He takes to it as naturally as a duck does to water. It is of no use to argue with him that Cotton has ceased to be profitable. He knows that full well. But his father before him grew Cotton and he himself since he was able to wield a hoe has grown Cotton, and Cotton he will continue to grow so long as he can control an acre of unimproved soil.

Fortunately for the country the richest soils, the strong red and chocolate clays, are not well adapted to the fleecy staple, and hence they have been happily neglected by the land-skimming Cotton planter. Plenty of nearly virgin and very fertile lands still exist in this region and can be bought as low as three dollars per acre.

Northern and German emigrants have introduced sheep raising and it has proved a success. The breeds most raised are the Merinos and African Broadtails.

All this region is admirably adapted to fruit growing, especially to Peaches, Pears and Grapes.

GERALD M'CARTHY.

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### CULTURE OF GLADIOLUS.

For some years I have been cultivating and experimenting with the Gladiolus, and the longer I raise it the more fascinated I become with its culture. The first years I raised it I met with rather indifferent success in getting the plants to bloom; although I thought I planted blooming sized bulbs, still upon many of them no flowers appeared. Now I am rarely troubled in that way. I have of late years selected a sunny situation for the planting of the bulbs, and I always have the ground manured and well plowed under the fall previous. Then in spring have it well spaded to a good depth, and the ground thoroughly pulverized. I believe firmly in deep planting; the bulbs attain a greater size and are better enabled to endure some of the severe drouths which visit so many portions of our country. If you have a number of bulbs, plant in rows from fourteen to eighteen inches apart and four inches apart in the row, and make it a rule to thoroughly cultivate between the rows until the leaves are too high to admit of it. I never allow a weed to be seen, neither do I plant any low growing plants between, such as Alyssum, etc., as a mulch. No; I think anything of a growing nature takes more or less from the soil, and the bulbs need all there is in the soil themselves. If a mulch is needed, and it has been within the last few years, I have mulched with leaves from the woodland near, where they lie heaped in great loads in the hollows, as Bryant has it, "Heaped in the hollows of the woods the withered leaves lie dead." Wagon loads have been drawn up for my garden and I have used them with a lavish hand. Since I began my thorough and deep cultivation, I have never failed to have an abundance of blossoms. Such spikes of bloom as made the whole neighborhood stare! Several stalks we measured the past season were over five feet tall. And when I tell you there were two hundred varieties in the bed, you will think it a grand sight to

view them. I have some beautiful seedlings of my own, of which I feel quite proud, some of them seem equal to some of the finest named ones. I delight to experiment with the seeds. I can bloom them in three years. I have read they could be brought to bloom the second year. This may be so, but I am doubtful. They require the very best culture I can give to bloom them the third year. But one is repaid then. I have a large frame, as for a hot-bed, covered with sash (muslin may do), having the earth made very fine by sifting, I remove the outer covering, or husk, from the seed, and then plant in rows, an inch apart in the rows, and the rows far enough apart to admit of cultivation with a table fork. Keep all weeds down and protect with the sash on very windy days. They come up like grass, and will grow almost as fast if well taken care of. Water when dry; in fact, they must never be allowed to get too dry. They should be planted as early in spring as practicable, and will keep on growing until October, when they may be dug, dried and stored away until another season comes around. They will be found to have made quite respectable bulblets. The bulblets that form at the base of the larger bulbs may be removed and grown in a hot-bed similar to the one I have described for the seeds. I prefer this method, as when they must be watered and protected, it is much easier to do it. These bulblets frequently bloom the second year. I have grown a great many of the rare varieties, so many of which are catalogued by Mr. VICK, and I can truly say they are the most satisfactory of anything in the plant line I have ever cultivated. Then they are so very easily cared for during winter. A dry, frost-proof cellar is all they require, and that is no more than is required for the commonest vegetable. I put mine in cloth bags and hang to the cellar ceiling to keep from mice. He who is induced to grow these lovely Lily-like flowers one year will want

to get out of the city, if he lives there, into the country where he may grow them as he chooses by the acre, so great

will his love for them be, and there are so many varieties of them, he will want them all.

M. R. W.

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### THE FARMER AND NATURE.

How the farmer and the gardener, above all people, enjoy this budding glory of spring. New life is bursting from every bud. The chilly breath of winter is still felt, and there may be frosty mornings under the clear sky, but the birds know that

"The Queen of Sprng will soon pass through the vale;  
Leave her robe on the trees, her breath on the gale," and they carol until they waken the worker, well tired with his planting of yesterday, but already reanimated by the joyousness of their notes. With what interest he scans the sky, and looks at the condition of the soil—his brain is as active in arranging the tactics for the day as if he were leading a force in warfare. But his feelings are of a far more enjoyable sort. He is no violator of God's law, or of man's peace and comfort, but the agent of both, receiving good as a co-worker with Providence, and distributing it to his fellows of mankind.

Even the children on the farm, as soon as they are put in possession of a bed of ground, or an animal to care for, begin to feel all this lively interest in the season, the weather, and all the other influences that affect their plans, their work and their profits.

It is not at all apparent on the surface, but it is a truth, nevertheless, that these rugged, brown and weatherbeaten farmers with their tanned and seamed faces and hard hands enjoy exaltations of hope and ecstasies of assurance which other classes are debarred by their mill-round of monotonous labor, or obsequious attendance on patrons, from ever experiencing. The gay looking town dweller shows a stereotyped phase of satisfaction which he never feels; the farmer feels real satisfaction which he need not and does not show.

A city-bred man of business lately made one of a jury of partition to divide some land in the country on a farm inherited by a son, and in accordance with the deceased father's will. Our man of trade was astounded at the simplicity of the heir, who, in his soul, insisted on follow-

ing what he believed to have been his father's intent, and of disinheriting himself of some acres of the ground which the more "politic" of the jury, in the light of "expediency" would have awarded to him. It is on the farm that such nobility of soul grows and thrives—among the men whose dealings are with immutable and faithful nature. They do not talk to that great, irresistible, utterly silent benefacto, they need not trim up, or put on airs, she is ever present but changeless. They learn her way, and so they put on no airs nor use any hollow flattery in the plain speech they use in their infrequent intercourse with men.

But "farmers are ignorant." Are they, indeed? True, they are easily imposed upon. They are used to honesty of yes and no; and to believe that one does not mean the other. They are warm hearted and hospitable, and will not only give to a pleasant-tongued traveller a meal and a rest, but will even sign a paper for him, if it will do him any good, never dreaming of a treachery that is entirely foreign to their own natures. They are ignorant, too, of fashions, and artificialities, but in respect to solid and useful knowledge the farmer becomes a sort of encyclopedia. Practically he is a physiologist, a veterinarian, a botanist, an entomologist, even a chemist. He is eminently a field philosopher, and at the same time a mechanic, knowing the nature of woods and of metals, and adapting them in the most summary way to the special needs of his service. He uses machinery and learns its nature and the care it requires, as he learns the nature and care of his animals. There is no class that needs or possesses such a variety of practical knowledge as the agriculturists. Their ingenuity and their judgment are continually in use arranging all their varied interests amid conflicts with the weather, the soil and its native growths, the birds, animals, insects, etc., that surround and penetrate the camp and keep the farmer-chief continually on the *qui vive*.

But he finds enjoyment in all this stir which affects him so intimately, far more

than is found on crowded streets, where the eye is pleased for a time, but where everyone is pre-occupied and absorbed and where our warm-hearted husbandman feels lost. He finds more real sympathy and interest among his growths and dependencies at home.

Compare the brain benumbing occupation of the factory hands, or the operative of any kind, who must keep up one round

of similar movement from early morn till late evening, shut up from all view, even of the glorious and ever-changing beauty of the fields and the creatures that haunt them. An evening gossip, or game, or carouse, also between four walls, is his only available means of recreation. Both brain and muscle weaken, and become little more than an extension of the machine.

W.

### CHRYSANTHEMUMS AND PAPER RAGS.

There really seems to be no kinship between the two, and yet my Chrysanthemums will always be associated in my mind with my paper rags.

When a little girl I was taught one lesson very carefully, "Never waste," and I well remember a good scolding I had from father for burning up an Apple core. "But, father, I have eaten all the Apple off," I protested; "but the birds outside will be glad of the seeds," and I have never forgotten the lesson; so I save carefully the rags, papers, bits of old iron, scraps of brass, lead and old rubbers, and when spring house-cleaning comes, exchange all this, to me, useless rubbish for cash, and for years I have sent the proceeds for seeds.

Last spring the old man drove up to the door, loaded up his wagon and drove off, leaving in my hand a brand-new dollar bill. That night I put that bill into an envelope with the request to send me its value in Chrysanthemums, and, as I had none, I left the selection to my seedsman, only saying I should like one of the old-fashioned, large, loose, white ones. In less than a week a slender wooden box came to me by mail containing ten fresh little plants, rolled in Sphagnum moss, a wooden label wired to each one, telling its name; comparing these labels with the catalogue I was both surprised and delighted. I never felt so rich over a dollar's worth of plants before. The plants were so small they looked lost in the five inch pots that I put them into. I gave them a good wetting and kept them in a cool room in the shade for two weeks, then new leaves had started on them, and I put them on the back porch, where they could see the sun rise for two weeks longer. The first of June the ground was well warmed, and I sunk the pots to their

rims in a bed of very rich soil, where they had sunshine all day. I put brush about them as a protection against the hens, but an ambitious young rooster bit off Mary Anderson, which luckily I discovered soon enough to stick the piece into the soil in a shady place, and it lived and grew, and the little root sprouted again, and I had two little Mary Andersons. I kept the plants well watered, showering with the hose after sunset, and the first of September they were great masses of dark, rich, green foliage and woody stems and branches, but not a bud visible; I was afraid of early frosts so I decided to take them up and repot before the ground grew cold. I was afraid the five inch pots would be too small, so one drizzling rainy day I took a stack of ten-inch pots and a trowel and began on Spotless. I dug all about where the sunken five inch pot should have been, I had certainly buried one there, I might as well have used a teaspoon! Then I threw away the trowel and went for a spade, that sunk in the soft soil to the handle before I hit that pot. I lifted that, and on its top were the great roots belonging to the Spotless; the rank lush growth had pushed that pot down at least ten inches, the little wooden label was down under the roots. Spotless had eight leaves on when I took it from its mossy covering in May; it was now three feet tall and well branched, I had pinched off the ends of the branches twice during the summer. A twelve inch pot held it comfortably. I spaded up Bois Rose and John Salter with the same results, they also requiring the large pots. I managed to crowd six of these Chrysanthemums into ten-inch pots, finding the roots on top of the pot in each case. The five-inch pots were large enough for the two Mary Andersons, which did not bloom

at all, owing to their early misfortunes.

I set the pots close together on the south side of the house in the sunshine. Bois Rose was the only one that wilted at all. I placed near them a keg about one-third full of droppings from the hen yard, filled it up with water, and gave them plenty of the liquid. Soon the small green buds began to form on the ends of the branches. Bois Rose and John Salter being the first to show color. One afternoon the very first of November, the great white flakes came whirling through the air, and I took them all into a cool room, putting them into a bay window looking toward the west. I wanted them to last over Thanksgiving and they did, some of them were beautiful at Christmas. I think Bois Rose a lovely variety. Not a single plant was a failure nor even a disappointment, every one prettier than its description in the catalogue.

Just before my Chrysanthemums came into bloom, a large show of these flowers was held here, one of the finest ever held in New England. For growth, luxuriance, masses of color and rarity it surpassed every display of flowers I ever saw, and I write this, remembering with what delight I gazed on those gorgeous Rhododendrons from England, at the Philadelphia centennial in June, 1876. Of course, the flower that attracted the most attention was the famous Japanese one, named Mrs. Alpheus Hardy, from the Boston lady to whom it was sent by a Japanese student she had befriended. After his return to Japan he sent her a large collection of Chrysanthemums, which she sent to a florist to care for; the rarest was this wonderful great fluffy ball, the rays three to four inches long, are snowy white, crape like in texture, and covered with long silky hairs curled and crinkled every way. Another much admired Chrysanthemum, was the great Lemon yellow one, called Golden Dragon, with its three-inch long, twisted and snarled rays, very narrow, and a texture like paper; it was the largest yellow shown. Phœbus and Gloriosum were both brilliant yellows, with very rich, dark green, abundant foliage. Some fine plants of Lord Byron were shown, a large deep yellow, flower dashed with red. Source d'Or, with its beautifully carved rays, tipped with bronze, was one much admired, as also Frank Wilcox, a golden

amber, shading to warm bright bronze, a perfect miracle of splendor. Golden Circle, with its pure Lemon yellow flower, each ray crimson tipped, stood here and there in gorgeous contrast to the magnificent Cullingfordii, of which many plants were shown. Cullingfordii, with its great trusses of brilliant, velvety, dark red flowers, with its reflexed scarlet tips, is the handsomest flower I ever saw. But it is impossible to even mention them all. One of the most brilliant of the new Chrysanthemums is the Mrs. C. H. Wheeler, a large coppery scarlet, edged and tipped with bright gold, John Salter, a delicate crimson, with reflexed dead gold tips and lines, is one of the finest. Then the white ones. Spotless, trained to a single stalk, seven feet high, crowned with its great snowy flowers; Moonlight, looking like balls of white fringe; Sœur Melanie, as pure as a snow flake; Elaine, with its perfect flowers shading to pink; Venus, a clear blush with heart of rose; and Winona, a beautiful pink with pearly centre, not quite as large as Bois Rose. The immense warm blush flowers of Volunteer, side by side of the pale pink of Puritan, shading off to white, both in striking contrast to the magnificent rose colored ones of Enchantress. I have only noted a few of the dozens that were shown.

I came home from this wonderful display, more delighted than ever with my eleven thrifty plants in the window. Their bloom and color is gone now. Maid of Kent stayed to wish us a merry Christmas.

Yet, with all the marvelous development and improvement of this now famous flower, the same pleasant odor clings to each new variety, that I so well remember, when, as a child, I loved to smell of grandmother's Artemisias. The dear old lady never heard of "Chrysanthemums," but used lovingly to tie up the tall purplish pink, yellow and white, great clumps of beauty, and my one clear memory of her is forever associated with those white ones in which she let my childish fingers lie while their still whiteness was emblematic of the purity and quiet of her fair young daughter who was lying so peacefully in her long sleep, clothed in the shining robe that was to have been worn by her as a living bride that snow white, sunny New Year's day, more than forty years ago. FLORENCE I. W. BURNHAM.

## THE FINAL CHARM OF THE FLOWERS.

I have been watching the Fuchsias with their brilliancy of coloring and their wonderful grace of structure. What a sensation that old German botanist must have experienced when his eyes first fell on these plants in their native haunts among the Andes!

Yet, with all the beauty of this flower, one finds it lacking in the finest charm, that of poetical association. What is it that Hawthorne somewhere says of the Cardinal Flower? that it is an expressive flower, one that appeals to the imagination and sympathies; whereas some flowers are simply form and color, neither winning affection nor stimulating thought.

I was about to say that the Cardinal Flower is another distinguished example standing on its own merits, apart from old association with the domestic and poetic life of man. But this newer classic may have a saving and inspiring virtue not less than the old, for what better fate can befall a flower than to bloom forever in the sunny atmosphere of the American Note Books?

I should like that the Fuschia should have a prettier name and should get into literature. Yet has any flower lacking perfume come to be so celebrated? Well, Poppies and Daisies and—

“Open afresh your rounds of starry folds  
Ye ardent Marigolds!”

Or the still more charming mention of the latter flower in Shakespeare’s Song:

“Winking Mary-buds begin  
To ope their golden eyes.”

There is Heliotrope, again, delicately sweet and quietly pretty, nobly named,

too, but lacking the chrism of Shakespeare’s genius what rarest essence of exquisiteness does it not lack? Whittier’s “Gray Heliotrope” is good, but not enough. ‘Tis a pity that old English gardens were so scantily furnished, for will the later poets, keeping pace with botanical discoveries and with floricultural results ever be able to supply to these really choicer spoils of later times the glamour which invests Rose and Lily, Violet and Primrose and Daisy with a gracious and perennial charm!

I have always been glad that Keats gave a spirited couplet to my well beloved Sweet Peas, and that the glory of the Scarlet Geranium is reflected forever from Browning’s “Evelyn Hope.” Even Lowell cannot set the Dandelion in literature so that it shall seem the peer of

“Daffodils  
That come before the swallows dare, and take  
The winds of March with beauty,”

and yet, beside the glory of a May meadow starred with Dandelions, what is even Wordsworth’s “Host of Golden Daffodils” fluttering by the waters of the bay? Time is to mellow these later classics for us and to make their bloom resplendent with “The light that never was on sea nor land.”

Already I am fain to confess Emerson’s “Rock-loving Columbine,” or the wild garden that flowers in “The Humble Bee” is as full of gracious suggestions as anything to be found, and one feels the very bloom and breath of a New England spring in Lowell’s “Yankee Pastoral.”

ABBY S. HINCKLEY.

## APRIL TEARS.

Oh! April, bonny April, why shed such show’rs of tears  
When the green, green grass is springing over all the waking earth,  
And many a fragrant flower the wood and meadow cheers,  
And many a bird from budding trees sings songs of love and mirth,  
Oh! April, bonny April, why shed such show’rs of tears?

“ My tears are not of sorrow. They are happy, happy tears,  
The golden sunshine makes of each a sparkling, rainbowed gem;  
I am so glad as each sweet flower and joyous bird appears,  
To think that back to our dear land my voice has summoned them.  
My tears are not of sorrow. They are happy, happy tears!”

MARGARET EYTINGE,



## FOREIGN NOTES.

### THE FRENCH VANILLA TRADE.

Bordeaux, which is one of the principal centers of the Vanilla trade, imports, it is stated, over fifty thousand pounds annually. Most of the Vanilla imported comes from the French colony of Réunion, where the culture is of comparatively recent date. The annual exports from that island previous to 1845 amounted to only six or eight kilos per annum, while the total exports from the French colonies of Réunion, Mayotti, St. Marie, Madagascar and Guadalupe for 1880 were seventy-eight thousand two hundred and forty-three kilos, and in 1886, one hundred and eighty thousand six hundred and seventy-one kilos. By the local dealers Vanilla is classified into four qualities; the pods of the first or *primiera* measure from seven to nine inches long; they possess the characteristic perfume in a greater degree than the other sorts. The Vanilla vine, it is stated, is at times covered with efflorescence of a silvery brilliance, producing a crystallization similar to that found in the pod, and which in good specimens covers the outside of the pod. This is called Vanilla vine, and is in great demand in the Bordeaux market.

Two different methods prevail for preparing the pod for market, which are described as follows: The first consists of harvesting the capsules after they have lost their green tint. Woolen sheets are spread upon the ground, and, when thoroughly heated by the sun, the pods are spread upon the sheets and exposed to the sun for a certain period, they are then put into boxes, covered by a cloth and exposed to the sun. The fruit should assume a coffee color in twelve or fifteen hours after this last exposure. If this color is not obtained, the Vanilla is again submitted to the heat of the sun. This process occupies about two months, at the expiration of which the Vanilla is packed in tin boxes, containing about fifty pods each, and securely packed.

The second process consists of tying together about a thousand pods and plunging them into boiling water to

bleach them, after which they are exposed to the sun for several hours and then coated with oil or wrapped in oiled cotton to prevent the pod from bursting.

During the drying the pod exudes a sticky liquid, the flow of which is promoted by gentle pressure of the pods two or three times a day. In the course of preparation for market the capsule loses about one-quarter its original size.

*Gardeners' Chronicle.*

### CANNAS.

There are few foliage plants easier of propagation and cultivation than these, and yet they are not so generally grown as their merits would warrant. Give a rich open soil, a sheltered position, and a moderate amount of attention in regard to watering in dry weather, and staking to prevent the plants being injured by wind, there is no sub-tropical that excels them in beauty. The manner in which they are most commonly planted—in huge masses—may have deterred some persons from growing them; but this is by no means the most effective way of using them, for they look infinitely better when planted so thinly that each plant can be seen by itself—a mode of planting which necessitates the use of other plants in conjunction with the Cannas, in order to fill out the beds, and the most suitable plant I have ever used for the purpose is the massive white-foliaged and low-growing *Salvia argentea*. The very large leaves of this plant, and the contrast of color between the Cannas and the *Salvias* make up together a pretty whole.

Another effective way of using Cannas is, to plant them in small groups on the lawn. A group of five or seven plants, arranged in a sheltered recess of the sub-tropical garden, has a charming effect, and though I have not used them in this way, I have no doubt that they would look quite as beautiful planted on the lawn between shrubbery clumps.

W. WILDSMITH in *Gardeners' Chronicle*.

## WHERE MUSHROOMS CAN BE RAISED.

An illustration, here reproduced, has been given in the *Journal of Horticulture*, of the appearance of a railway tunnel at its entrance to Edinburgh, Scotland, as occupied by Mushrooms. "The whole length of the tunnel is occupied with Mushroom beds, and about three thousand tons of manure and soil are at present in use; the work is like perpetual motion. New soil and manure go in daily, and the old soil



MUSHROOMS IN A RAILWAY TUNNEL.

is taken out, so that we have always beds coming forward, and thereby are able to supply our customers all the year round with fresh Mushrooms. We supply our Glasgow customers by ten o'clock in the forenoon with Mushrooms growing three hours previously, which can easily account for the demand as against the old fusty French ones two or three days old on arrival. It is recorded in the 'Industries of Scotland' that the aggregate length of the beds in the tunnel is three miles.

"Disused tunnels or mines, covered quarries, caves, or large cellars are admirably adapted for growing Mushrooms, as their equable moderate temperature enables crops to be produced at all times, even in the summer, when the heat is too great for their production above ground."

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## GREEN LAWNS ON SANDY SOILS.

In a recent number of the *Revue Horticole*, a contributor puts forward an idea which may prove valuable with us in some circumstances. It is that on light sandy soils, where a green surface is desired, and where it is difficult or impossible to establish a good turf of grass, or where in the heat of summer the turf becomes a rusty brown and so remains for weeks at a time, an excellent green surface may be had by raising the well known Milfoil, *Achillæa millefolium*.

Some years since, while sojourning at a lakeside, where there was a broad strip of sandy beach, upon the greatest breadth of which the water no longer encroached, we found this plant to be growing there freely, although there was but little other vegetation there. Since that time we have frequently found it growing in similar situations, and always to admire its beautiful foliage. To this extent we can give testimony in support of this proposed lawn plant. In such situations it is of low growth, but thick and of fine color. It is a perennial plant, and therefore durable.

The writer says that the seeding should be made in September or October, or else in early spring, using from twelve to eighteen pounds of seed to the acre. The seed being very fine should be sowed with care and be covered by rolling or by dragging some brush over the surface.

White Clover can be employed with the Milfoil, using a pound of White Clover and twelve pounds of Milfoil to the acre. The appearance of the lawn formed of this plant is very agreeable on account of the beauty of its finely cut leaves. But, in order to form a pleasing surface, it is necessary to mow it often to prevent the plants from running to seed; this treatment also favors a short, thick growth. Whenever it may appear necessary an application of compost may be made in the fall to secure vigorous growth the succeeding season, or some nitrogenous fertilizer in springtime. These remarks are based upon successful experiments in the manner described.

It is probable that about many summer residences about lake shores, where sand prevails, the use of this plant may give a pleasing relief to the barren surface, or one covered with a brown vegetation that is able to retain its hold on life only by a short season of growth during the rainy seasons of autumn and spring.

#### CLANTHUS DAMPIERI.

Clanthus Dampieri (the Australian Glory Pea) is one of the most beautiful of all the Pea tribe. It is easily obtained from seed, which may now be sown at once. It is sometimes recommended that the seed should be sown in the pots they are to remain in for the season, but I have several times succeeded in establishing plants, and have treated them somewhat as follows: Sow the seed thinly in pots filled with light peaty soil, giving the seeds a fair covering. They generally germinate freely, but it is afterwards that they are a little difficult to manage. The roots are exceedingly brittle; consequently, they require the

greatest care when pricking them off or repotting them. As soon as large enough, prick them off singly into small pots, taking care not to bury the stem too deep. They should be grown on in a cool position, but not in a dry, draughty place. A cool, moist bottom suits them best. As soon as they are well rooted they may be potted into four and one-half or six-inch pots, using coarse fibrous loam, leaf-mold, a little rough peat and plenty of sand. In potting the plants, the balls should not be broken, and may be kept up nearly level with the rims of the pots; if kept well up in the center of the pots it will prevent the water settling round the stems. They require great care in watering, over watering being sure to prove fatal, but the other extreme must also be avoided. If the seed is sown early the plants will generally flower the same season, and the curious parrot-like blooms, which are of a brilliant crimson color, are very attractive.

A., in *The Garden.*

#### SMALL YELLOW LADY'S SLIPPER.

Next to Cypripedium spectabile, I have been most successful with the present plant, *C. parviflorum*, single crowns having increased to fully a dozen in half as many years. In one instance I obtained a well rooted plant with two flowering stems, and in the fifth year after being planted out it bore no less than sixteen flowers. I do not know that this is unusual, for if properly planted strong roots multiply in a surprising manner. To obtain the best results, I would suggest planting the roots in compost of half leaf-mold, half sand, and in a shady situation, where ample, but not stagnant, moisture is afforded. The flower stems are stout and wiry, rarely getting twisted about or broken even during rough weather, and bear sometimes two blooms each. Strikingly quaint and pretty are the flowers, the lip being bright yellow, and the chocolate colored sepals long and twisted. A. D. WEBSTER, in *The Garden.*



## PLEASANT GOSSIP.

### GERMINATING SEEDS.

Please let me know, through "Pleasant Gossip," of MAGAZINE, whether any particular method is necessary in order to make seeds of Aquilegia chrysanthia and Myosotis grow. I have made repeated sowings of both, out of doors and in pans, and have, so far, had no results, though nearly everything else does come up sooner or later.

Clianthus Dampieri has served me the same way. Among Geranium seeds brought from California, one came up with three seed-leaves, and pushed up a remarkably vigorous plant, twenty-seven inches high, before sending out its first blossom, a lovely soft pink with large white blotches on two upper petals.

Three Cyclamens, from seed, are eighteen months old, and so far there has been only one blossom, though plants are healthy. Can anything be done besides waiting?

I am a novice in gardening, and find your MAGAZINE very instructive and pleasant reading. My principal regret is that I cannot have a greenhouse and acres upon which to experiment.

M. H., *Muscatine, Iowa.*

The seeds of Aquilegias are variable in regard to retaining their vitality. The crop of a certain year will retain vitality well for eighteen months or two years, and again another season it will be found that the seed of the previous season's growth germinates with difficulty, and perhaps but a small proportion at all. The proper time to sow the seed is as soon as ripe, but this is impracticable, except as one raises the seed himself, in which case we advise that course. Aquilegia seed that has passed through the trade we should expect to be a considerable time in germinating. It should be sowed in sand or in light soil in pans, and never allowed to become dry. To keep it steadily supplied with moisture, for the long time it is in the seed pans, is somewhat difficult to do, and to mishaps of this kind the failures to germinate may usually be attributed. The greatest care, therefore, must be exercised in this respect. Perhaps one of the best ways of retaining the moisture or preventing too rapid evaporation consists in covering the surface of the soil with moss, and leaving it until germination is apparent. The water passes downward easily through it, while it prevents, in a measure, the air from taking it up. In the ab-

sence of moss a woolen cloth laid on the surface serves the same purpose.

Clianthus Dampieri seeds have a well known reputation for being slow to germinate. It is well to soak the seeds in water from one to three days, then place them about half an inch in moist sand, and be sure that it is kept moist.

As to the Cyclamen plants mentioned, it may be well to plant them out in the garden in May, when the weather is settled, and leave them until the first of September, and then lift and pot them. Dig in some rotted cow manure where they are to be planted, and give them no attention after, except to keep free from weeds.

### WINTER BLOOMING PLANTS.

Please give me, through your MAGAZINE, to which I am a subscriber, a list of good winter blooming plants suitable for a cool greenhouse, where Geraniums, Cinerarias and Cyclamen grow and bloom.

J. W. C., *Newbern, N. C.*

Some of the most useful plants for winter blooming in the greenhouse are the following:

Abutilon, many varieties; Achania malvaviscus; Ageratum, different varieties; Begonias, many varieties; Bouvardias, many varieties; Richardia *Æthiopica*; Carnations, many varieties; Cestrum aurantiacum; Cestrum Parqui; Chrysanthemums, many varieties; Fuchsias, some varieties, such as Carl Holt, Pearl of England, Speciosa and Gem; Chinese Hibiscus, in different varieties; Heliotrope; Jasminum grandiflorum and revolutum; Lantana, many varieties; Viburnum tinus, or Laurestinus; Oxalis floribunda alba and rosea; Passion Flowers; Chinese Primrose; Tea Roses; Rivina humilis; Hyacinths, Freesias, Narcissus and Tulips.

### PRUNING NOW.

If any pruning is left undone in the garden, don't let it be that of the Grape vines or the Rose bushes. It is late for pruning Grape vines, but better late than never. Cut the Rose bushes well back.

### A GREAT PETUNIA PLANT.

Two years ago I got a package of Petunia seed from you, being the small flowered, mixed seed. This I planted, together with Abronia seed, in a round bed raised about nine inches above the surrounding lawn. They both came up and bloomed well together from the latter part of May until the middle or latter part of August, when dry weather and a hot sun caused the plants to dry up, with the exception of one Petunia plant. In clearing the bed I noticed that a considerable part of that plant, a large one, was still alive, and let it remain, clearing it of grass and weeds which had crept in the bed. It commenced to grow again, and in January following the single plant had completely covered the bed, about four feet in diameter. A wet norther at that time completely encased each leaf in ice, and I thought the plant was killed; but a warm rain followed a couple of days after and melted the ice, and left the leaves as green and fresh looking as ever.

The plant began blooming about the middle of March, and continued in bloom until the middle of August, and in the meantime ran over the borders of the bed. For fully three months that plant must have borne a thousand flowers per day, the whole bed looking like a large bouquet. The flowers were very sweet-scented, the perfume being very distinguishable a block away. As I live so close to the Gulf beach, this had attracted much attention from passers by. None had ever seen as large a single plant of the kind. The main stem was about one inch and a half in diameter, and as it grew the branches lay prostrate on the bed, while the flowers were borne on stems shooting up from these prostrate branches from six inches to a foot high.

I cannot exactly describe the color of the flowers, but my wife called them a deep magenta, a shade between deep red and purple, while there were blotches of white on many of them. The plant died about the middle of August, and I found the root as completely decayed as though it had been dead in the ground for years. This may be nothing surprising to you, but here I cannot hear of a plant of that kind living and blooming the second year. They generally die off in our light soils when the hot, drouthy weather of

August comes. But that single plant must have produced one hundred thousand flowers, at least. I have Petunias that came up from the seed growing on the same bed now, but do not expect another such a plant.

R. B. S., *Galveston, Texas.*

### BLACK ROT OF THE GRAPE.

In order to answer many inquiries made of the Department of Agriculture in regard to the treatment of the Black Rot of the Grape, a circular has been prepared by the Section of Vegetable Pathology, embodying the required information. We are indebted to the Commissioner of Agriculture for a copy of the circular, the essential portion of which is here given:

#### REMEDIES.

The experiments made in 1888 have demonstrated beyond question that the copper compounds, especially the Bordeaux mixture, can be relied on to prevent Black Rot. Where the remedies were properly applied from sixty to seventy per cent. of the crop was saved.

In view of these facts the preparations which furnished the best results in 1888 are here given, with the urgent request that one or more of them be thoroughly tested during the coming season.

#### (1) SIMPLE SOLUTION OF SULPHATE OF COPPER.

Dissolve one pound of pure sulphate of copper in twenty-five gallons of water. While this preparation has, in a number of cases, been used with beneficial results, its employment, especially when the foliage is young and tender, cannot be advised. For spraying the vines in spring, however, before the leaves appear, it will doubtless prove as efficacious as any of the following mixtures, and is more easily prepared and applied.

#### (2) BORDEAUX MIXTURE.

(a) Dissolve sixteen pounds of sulphate of copper in twenty-two gallons of water; in another vessel slake thirty pounds of lime in six gallons of water. When the latter mixture has cooled, pour it slowly into the copper solution, taking care to mix the fluids thoroughly by constant stirring.

(b) Dissolve six pounds of sulphate of copper in sixteen gallons of water, and slake four pounds of fresh lime in six gallons of water. When cool, mix the solutions as described above.

This formula requires *fresh* lime. Air-slaked lime, or a paste made by allowing freshly slaked lime to settle, contains a large percentage of water; consequently, if they should be combined in the proportions indicated, there would not be sufficient lime to decompose the copper. Experience has shown that while four or even three pounds of fresh lime is sufficient to decompose six pounds of copper sulphate, it requires double that quantity of air-slaked lime and three times the amount of paste.

The manner of preparing the Bordeaux mixture may be modified in various ways. Colonel PEARSONS pulverizes the sulphate of copper, and then dissolves it in from two to four gallons of hot water.

The lime is then slaked in the same way that masons slake it for mortar. This is strained into a box, left to settle and thicken, and then combined with the copper, adding water to the required amount.

(3) SOLUTION OF AMMONIACAL CARBONATE OF COPPER.

Into a vessel having a capacity of about one gallon, pour one quart of ammonia (strength 22° Baumé), add three ounces of carbonate of copper, stir rapidly for a moment, and the carbonate of copper will dissolve in the ammonia, forming a very clear liquid. For use, dilute to twenty-two gallons. So far as we know, this preparation has not been used in this country as a remedy against Black Rot. As a preventive of mildew, however, it has given satisfaction. It is easily prepared and applied, and adheres firmly to the foliage.

(4) EAU CELESTE.

(a) Dissolve one pound of sulphate of copper in two gallons of hot water; when completely dissolved, and the water has cooled, add one and one-half pints of commercial ammonia (strength 22° Baumé); when ready to use dilute to twenty-two gallons.

(b) Dissolve two pounds of sulphate of copper in hot water; in another vessel dissolve two and one-half pounds of carbonate of soda; mix the two solutions, and when all chemical action has ceased add one and one-half pints of ammonia, then dilute to twenty-two gallons.

TREATMENT.

To indicate a definite line of treatment that will be applicable to all regions is somewhat difficult. As a first step, however, every precaution should be taken to remove as much of the infectious material as possible. With this object in view the old leaves and rotten berries should be carefully collected in the fall or winter and burned or buried. The trimmings should also be burned as they often harbor thousands of the minute spores or reproductive bodies of the fungus.

In spring, after the vineyard has been pruned and put in order by the plow, but before vegetation starts, spray the vines thoroughly with the Bordeaux mixture, formula *a*, or with the simple solution of sulphate of copper. The object of this spraying is to destroy any spores of the fungus that may be hidden away in the crevices of the bark. About ten days before the flowers open, spray all the green parts of the vine with the Bordeaux mixture, formula *b*, taking care to wet the foliage thoroughly. Spray again with the same preparation when the flowers are opening, repeating the operation every three weeks until the fruit begins to color. The necessity for beginning the treatment early cannot be too strongly urged; *it is absolutely necessary to insure success.*

For applying the remedies, spraying pumps with specially constructed nozzles are necessary. The Eureka sprayer, fitted with the improved Vermorel nozzle, answers the purpose admirably. With this machine, which is carried on the back, knapsack fashion, a man can spray from five to six acres of vines per day, and the cost of treating an acre in an average season, using the Bordeaux mixture as indicated above, need not exceed \$12. The price of this machine, including all the fittings, is \$20.60.

In all cases where the Bordeaux mixture is employed it will be best to use the improved Vermorel nozzles, for the reason that they are specially constructed to prevent clogging. These nozzles may be attached to any force pump having the proper apparatus to make the connection.

PLANTS FOR MINNESOTA.

My sympathy was deeply moved by the inquiry for plants for Minnesota. Unless one has witnessed the struggle of pioneer horticulturists in our bleak northwest, he can never understand the infinite patience required to struggle on to success.

To the reply given by Mr. H. J. G. C., I would like to add to the list of annuals, Annual Chrysanthemum and Gaillardia, and let us revel in our Pansies and Verbenas rather than bewail the beautiful which we may not possess.

In vines, I suggest also, a trial of our native *Aplos tuberosa* and *Clematis Virginiana*, the latter, like our native *Ampelopsis*, can add grace at pleasure, or, if left to mature, will completely shade.

To the list already given her, she may add the Scarlet Trumpet Honeysuckle and *Adlumia* from the tantalizing article upon ornamental vines in the December number. Any further venture will be at great risk. If *Calystegia* be not already a pest, never plant it. I have used with pleasure our native *Lonicera flava* and *parviflora*. They are fair in bloom and beautiful in their scarlet berries. The latter trains to a fine shrub.

There may be in early spring an abundance of white *Narcissus*, single and double, and all the hardier *Tulips*. There is much difference even in adjoining territory. In heavy black loam the setting of each bulb in a handful of sand has seemed an improved plan. My own location, sandy, surrounded by water, with forest leaves at command for covering, leaving a mulch of them until blooming, bears remarkable results. Even *Hyacinths*, *Polyanthus*, *Narcissus* and *Crocus* of varied hue, ignorantly planted out, have survived two winters, blooming beautifully each spring. A triumph which will, I suppose, sound quite tame to most of your readers.

June roses may be had in fair variety. My collection, each one of which marks much patient endeavor, has remaining very few with rightful names; the name of the individual who gave to swell the meagre store of his neighbor having superseded; a memorial not undeserved, but rather confusing. Can not someone give the best named selection and also a definite list of Hybrid Perpetuals? The few I have left from my brief attempt I dare not yet mention.

There may be *Dicentra spectabilis*, *Achillæa*, *Pæonies* and *Iris*. Can someone advise from trial of the newer varieties of *Iris*? *Aquilegia* fills a space that is otherwise almost flowerless, not forgetting our native *Canadensis*, most attractive of all.

*Lilium auratum* and a "pink banded," whose name I do not know, are rare additions to the more common Lilies.

#### TWO DICENTRAS.

We have three wild species of *Dicentra* in this country, two of them, *D. Canadensis* and *D. cucullaria*, being spring blooming, and *D. eximia* summer blooming. The leaves of all of them are much alike, those of the first two being very similar. On this account, and because the flowers are about the same size and color, there is often experienced by students a diff-



DICENTRA CUCULLARIA.

Salvias and Dahlias give greater returns if planted out early, protecting from frost while small.

Our most cruel experience comes when early September, often August, robs us of our hard earned wealth of bloom. I know one garden where, just at the edge of a wisely located orchard, well sheltered except at the eastern slope, the owner often enjoys her flowers six weeks after all is swept from lower ground. One may often find shelter for the choicest in southeast angle of a "winged" house.

Helping each other we may hasten success.  
F. F. L. D., *Durand, Wis.*

culty in discriminating between them and accurately determining them.

The blooming of the White Eardrop, *D. cucullaria*, commences here usually in April, and is somewhat in advance of *D. Canadensis*; but the time overlaps, and before the former has ceased to bloom the latter commences, and they are thus found blooming at the same time—the latter part of April and the early part of May.

From the illustrations here presented, the difference in the flowers is plainly seen. In *D. cucullaria* the spurs are more pointed and divergent, while those

of *D. Canadensis*, or the Squirrel Corn, are rounded and less separated, appearing heart-shaped. The flowers of both are white, or sometimes with a slight blush.

The common name of this last species is founded on the fact that its rhizome bears little rounded tubers of a bright yellow color. The root of *D. cucullaria* is a sort of loose, scaly bulb, the scales being of a pale red color. These two wild plants should have a place in our

My Moon Flower is a sight to behold. I placed it in a keg when I received it in March; kept it in the house until the weather was settled in April. Then I broke the staves, plunged it on the north side of the house at the end of the porch. It soon began to run, the end of the porch was soon covered; by the middle of July it was to the top of the house, and full of beautiful white flowers, large and fragrant. It put out so many runners



DICENTRA CANADENSIS.

gardens, where they will thrive with but little attention. A slightly shaded spot is desirable for them.

#### MY CALIFORNIA GARDEN.

I must tell you something about my garden. It is very beautiful just now—a forest of lovely flowers.

My Flowering Maple is six feet tall, has branches that are four feet long, fine large ones that come out near the bottom that are four feet long; it forms a sugar loaf, and has all of a thousand buds and beautiful blossoms on it. It is the admiration of all.

that I began to train it on the front, and by the middle of August the whole front was entirely covered to the front steps. To-day, November 27th, there are a great many blossoms on it. I would not be without it, for it makes a lovely shade, and so clean, too.

My Pansies that I raised from seed were beautiful; every shade and color, and the largest I ever saw. I do think that every seed came. I told my friends that I believed every seed produced two plants, there was such a mass of them, and all lived after transplanting, for I sowed the seed in boxes.

The Dahlia seed came, too, and I had many fine Dahlias, many of them were single, but not two of the same shade; I thought it remarkable. They were in bloom the first of June, bloomed until August, then began to look shabby. I cut them down, and they came up nice and strong stalks, and have bloomed profusely all the fall; have fine blossoms on them yet.

My Petunias have given me a great deal of pleasure. When I thought them large enough to transplant I set them about two feet apart, close to the house and next to the fence. They soon grew to the top of the fence, and a grand display they made, with every shade, blotched, striped, veined, red, pink, white, and they would peep their darting heads through the fence so all could see their lovely faces; and those against the house, I just drove tacks in the house, took twine and fastened them close to the house, and it is one mass of their fragrant and showy flowers the whole length of the house, all standing about four feet high. I have them, too, in a mass in several places; they are very showy.

Just think, one year ago this place was perfectly barren, like a brick-yard. Now it is the loveliest spot in the county—just a forest of flowers. Pansies in beds, Phlox with more than a hundred colors and markings, Geraniums in many colors, some from slips last spring that stand four feet high now, and full of bloom out in the open ground. Verbenas of every shade.

M. A. V., *Moore's Station, Cal.*

#### LILIES PLANTED IN SPRING.

Of course, it is wiser and safer to procure Lily bulbs and plant them in autumn, but if, by some accident, you have overlooked in autumn a new beauty which you want very much, do not let the idea that you will have to wait a year for its blossoms deter you from including it in your spring planting.

My first auratum bulb was planted in spring, early in February, out in the open ground, and although it did not send up as strong a stalk as it did the next year, still, in autumn, out of five buds, it gave me three magnificent blossoms, larger and more perfect than the individual flowers have ever been since, although

the number of flowers in a cluster seems to increase with the age of a standing clump, often numbering fifty or more to a single stem.

Lilium Harrisii and L. tenuifolium are two other Lilies that respond cheerfully to early spring planting; the latter, rather to my surprise, as it is such an early bloomer, but the slender stem bore eight perfect little Lilies, of a glossy, glowing scarlet color, nodding as cheerily and gleaming as brightly as if a six months' forethought had provided for their comfort.

The rarer kinds of Lilies are more exacting, I believe, but none are more beautiful than these three, and I make it a point to procure and plant a Lily bulb whenever I can most conveniently, regardless of season. For instance, often on mountain expeditions I find native beauties in a locality which, perhaps, I might never visit again, or find the plant even if I marked the spot and purposely returned, so I ruthlessly dig them up and then carry away, even in blooming time, and have lost very few.

After early spring planting it is necessary to protect the bulbs, even here, in North Carolina, with leaves or evergreen boughs; but they do not need to be planted so deeply, as they are longer in coming up.

LENNIE GREENLEE.

#### THE DIAMOND GRAPE.

The beauty and good qualities of this Grape are so great that we think it due to our readers that they should fully understand them. That they may appreciate its fine appearance, we have prepared the colored plate in this issue, which is an exact representation of a cluster, in size and form, as it hung on the vine the past autumn. The coloring is as near as a good artist could make it; the delicate white bloom that invests it cannot be fully represented. It is no exaggeration to say that this fruit is the most beautiful, without exception, of all the white varieties of our native Grapes, whether wholly natives or hybrids.

The Diamond was raised by JACOB MOORE, the well known originator of new varieties of fruits, and especially of the Brighton Grape and the Ruby Currant, both of which have now well established and high reputations. Mr. MOORE has attained rare skill in cross-fertilizing,

and it is probable that the horticultural community will yet be indebted to him for many more good things. The Diamond is the issue of the Concord crossed with the Iona, and first fruited in 1880. The vine is a thrifty grower, with large, thick foliage, and has never showed any tendency to mildew. It is an abundant bearer, and the bunches are remarkably uniform in size; usually shouldered and frequently double-shouldered. It ripens quite early, or with the Delaware, and the fruit will hang on the vine in perfection a long time, never showing a tendency to drop, but clinging strongly to the last; flesh juicy, melting, separating instantly from the two or three small seeds, of a delicate and excellent flavor and wholly without acridity or foxiness.

As to hardiness, the vine has been subjected to very severe tests and has borne them all without any evidence of tenderness. In this respect it is undoubtedly all that can be desired. It has splendid rooting capacity, the roots plentiful and running deep. All things considered, it is believed that this variety is superior to all the varieties of white Grapes now before the public, and as soon as better known its superior merits will be admitted.

#### PEACH YELLOWS.

At the annual meeting of the New Jersey Horticultural Society, Prof. ERWIN F. SMITH, of the Department of Agriculture, Washington, D. C., presented a carefully prepared paper on "Peach Yellows and Soil Exhaustion." This is the most important statement of facts on this subject that has appeared in recent years.

The theory of Prof. PENHALLOW that the disease is due to soil exhaustion had been particularly examined. Prof. SMITH considered the theory, the data on which it rests, and showed in what manner its conclusions might be erroneous. According to Prof. PENHALLOW, the essential element lacking in the soil where the yellows exists is potash.

Prof. SMITH asks: "Has this remedy given any more definite and satisfactory results in the hands of practical Peach growers?" He then makes the following statement:

After two years of observation and inquiry in Michigan, Maryland and Delaware, I must say that I cannot find that it has. So far as my own observa-

tion goes, the most that can be said of any phosphate or potash treatment is that the trees become greener and in some cases produce premature fruit for a year or two longer than otherwise. On the Delaware and Chesapeake Peninsula it is the rule rather than the exception to use commercial fertilizers, and some of the orchards which I have examined have received very large doses of fertilizers containing potash, phosphoric acid, sulphuric acid, chlorine, etc.; but it is almost the universal testimony that as a remedy for Peach yellows, or even as a preventive, they are of no value whatever. A few men hold a contrary opinion, and in some instance I took special pains to visit their orchards, learn the treatment and note the condition of the trees.

Detailed accounts are then given of visits to Peach orchards in Delaware and Maryland where applications of potash had been made to prevent and cure the yellows, but, as he shows, in all cases with little or no effect. Finally he examined the Peach region of Michigan bordering on Lake Michigan.

By state law, supported in this region by a very strong public sentiment based on a nearly universal belief in the communicable nature of yellows, diseased Peach trees are cut down or dug out and burned as soon as discovered. In this way, on the theory of spread by contagion, the infective material, whatever it may be, must presumably be kept at a minimum. If it is developed in the tree it can never be very abundant, for there are never very many diseased trees in existence at any one time. The proximity of Lake Michigan also tends to prevent injuries by freezing.

Here, then, the influence of two supposed causes is reduced to a minimum, and the effect of soil-exhaustion will, if anywhere, be freed from complications, and in condition to be estimated more readily at its true value.

The fact that cases of yellows still appear in this region, year after year, in spite of the modifying influence of the great lake, and in spite of the comparatively strict enforcement of the law, would, at first, seem to favor the theory of soil-exhaustion, but really does not. Some very stubborn facts stand in the way of the acceptance of this theory. They are:

(1) Yellows is much less prevalent where the law has been strictly enforced.

(2) Yellows has appeared in this region on productive virgin soil, *i. e.*, on land cleared of the original forest within less than a decade, and never exhausted by cropping. This statement is so important that I have been at great pains to verify it, by extensive correspondence, and later by a visit to the region. There seems to be no doubt whatever about it.

(3) Healthy trees can be grown without lapse of time and without fertilizers in the places previously occupied by diseased ones. In this region it is the custom, and has been for ten years or more, to set Peach trees in place of those dug out on account of the yellows, and these resets are not more liable to the disease than other trees in the orchard. In fact, from many reliable Peach growers in southwestern Michigan, I have received straightforward independent testimony showing that trees set in place of those unmistakably diseased by yellows, have come to maturity and borne healthy fruit and are now healthy. Such a state of affairs could not possibly exist, not generally, if soil exhaustion were the cause of yellows, or one of the necessary factors in its production.

We believe that the ideas here set forth, that the yellows is caused by some contagious principle, are consistent with scientific investigations and with all the facts.

APRIL.

Patter, patter, patter,  
Hear her feet on yonder hill ;  
Coming, coming, coming,  
How the little branches thrill,  
Singing, singing, singing,  
Wakening every tiny rill ;  
Listen, sister, listen,  
Cease your shrieking, March, be still.

Almost swelled to bursting,  
Holding scents to woo the bee,  
With a gladsome knowledge  
Of the bloom we cannot see,  
Little buds are peeping  
Upward, outward, just to be  
First to let this maiden  
Kiss, and set the petals free.

Poets called her fickle,  
In the far off days of yore ;  
Poets call her changeful,  
And they sit beside our door ;  
But I call her constant,  
Ever bearing bounteous store,  
At the time appointed  
Entering the humblest door.

Were our friends as changeless,  
Were our lovers just as true,  
If the thoughts we scatter  
Fell like April's morning dew,  
Clear as crystal, giving  
To some cold heart impulse new,  
Morrow's dawn would open  
The millenium to view.

MRS. M. J. SMITH.

DISEASE OF THE BEAN.

A correspondent inquires of the Botanical Division of the Department of Agriculture, in regard to a disease becoming common at the South. He is answered in regard to it in Bulletin No. 8, where it is called Anthracnose of the Bean, (*Glæosporium lindemuthianum*.) The following is the inquiry and the answer:

For the past eight or ten years the gardeners of this city have lost most of their Bean crops from the attacks of a peculiar disease. The malady appears suddenly, frequently destroying the entire crop in one night. I have tried many ways of planting, different fertilizers, etc., but so far I have failed to discover a remedy. The only definite information that I am able to give you in regard to the matter is that the disease is always more abundant during warm, "muggy" weather.

V. ANSEMAN, *New Orleans, Louisiana.*

**Answer.** The Beans are affected with a parasitic fungus which grows in the tissue of the pods, producing the large brown spots with which you are familiar. The little pinkish, mealy tufts seen in the center of the spots are the spores or reproductive bodies of the fungus. These are easily blown about

by the wind, and when they fall upon healthy Bean pods they germinate, providing there is sufficient moisture present, and ultimately produce similar discolorations to those referred to above.

The disease is usually more abundant where the plants are too thick, or where there is an excess of moisture in the soil. In some cases, however, even the most vigorous plants are attacked by it, and on this account it has come to be regarded by many gardeners as a most dangerous foe. There is considerable doubt as to how the fungus lives over winter, and it seems probable that this may be more easily determined from Beans grown in the South, since the winter form will develop earlier than with us.

The probability is that the spores which you see on the spots, or other spores of a similar nature, fall to the ground and retain their vitality until spring, when they get upon the young Beans. The pods are probably infected early, but the fungus needs moisture in order to develop, and a long shower furnishes this. Hence, you find the pods spotted immediately after. So far little is known concerning a remedy for this disease. I would suggest, however, the following treatment in the hope of discovering a remedy for the pest :

1. Soon after the Beans begin forming, spray the plants with a solution made by dissolving one ounce of hyposulphite of soda in one gallon of water. Apply this mixture thoroughly to the young pods ; it is perfectly harmless, and no injury to the plants or the person will result from its use. Repeat the operation when the pods are one-half or two-thirds grown, and again eight or ten days later.

2. Apply as described above, but to different plants, a solution made by dissolving one-fourth ounce of sulphide of potassium in one gallon of water. The chemicals here mentioned are for sale by all druggists, and they ought not to cost more than ten cents per ounce. Besides this, it will be well to carefully burn all the vines and diseased pods, and, if possible, to select another site for your Bean plot which will be as dry and airy as possible.

AN INSECTICIDE WELL APPLIED.

Writing in the *Orchard and Garden*, L. O. HOWARD, of the Department of Agriculture, tells of the measures he used, not with entire satisfaction, last summer, to kill the slugs on his Rose bushes. He then says:

As the drought continued, I brought out my hose and discovered to my delight that a strong stream of water directed upon the foliage each evening was the most efficacious and the neatest remedy I had yet found. During the remainder of the season the bushes were green and beautiful and free from slugs.

This strong stream of water I found was a most admirable thing. It blew the plant lice off my Currant bushes, it thoroughly discouraged the web-worms on my shade trees, it made the ants which built their mounds on my lawn and in the cracks of the brick wall tired of life, and, best of all, it broke up the nests and

completely disheartened the English sparrows which built in the Ivy and over the windows of the house. Where it is available, therefore, pure water "without trimmings," when thrown with sufficient force, is a good insecticide.

#### THE ADIRONDACK FORESTS.

With great earnestness the *Garden and Forest* represents the disaster that awaits this state if the Adirondack forests are allowed to be destroyed. It proposes:

"A thorough change in the system of control and administration of the forests on the state lands. The methods now pursued interpose no serious check to the influences which will extirpate the woods in a comparatively short time. If the devastation of the region, already far advanced, is completed, centuries of time will be required for any process of restoration.

The destruction of the North Woods will produce a change in the flow of the principal rivers in the state, and in the water supply of the Erie Canal, which will cause widespread disaster to the interests of the people. There will be uncontrollable freshets at the times of heaviest rain-fall, and when the snow melts in the spring; the channels of the rivers will be choked by débris brought down from the hills; and in summer, when a full volume is most needed, the flow will be insignificant. If this ruin is consummated it will be a most serious blow to the prosperity of the state and of all classes of its people.

Not less important is the value of the region in its relation to the health and life of the people of the country, as a place of resort for the inhabitants of the towns, and for all who need the restorative and vitalizing atmosphere and influences of a region of sylvan beauty and peace. \* \* \* If the entire forests are destroyed the entire charm and attractiveness of the region will be eliminated, and a scene of hideous desolation will be substituted which no one will ever wish to look upon.

The only plan by which such injury can be averted, and means provided for the conservation of these invaluable forests, is the acquisition by the state of the entire Adirondack region. While portions of it remain in the hands of private owners, injuries to state lands adjacent to their holdings cannot be prevented. But it would be senseless and wicked to expend the money which would be required for this purpose while the present system of control continues. It has proved entirely inadequate for the protection of the forests on the lands which already belong to the state, and it would be the extreme of folly to acquire property at great cost when there is danger that it might soon be dissipated and destroyed."

It remains for the people of this state, through their legislative representatives, to take the steps to control the interests of this whole forest region. In what manner can the whole community be impressed with the importance of the subject? In those cities where there are Boards of Trade those bodies could very properly take the matter into consideration, and if found urgent as *Garden and*

*Forest* represents, and as without much doubt is the case, they would be in a position to give impetus to a movement that would secure the forests from further depredations.

#### SPRING NOTES.

The best advice that can now be given is to put in all crops early—it is the early crop that usually pays best.

While early planting is desirable, don't neglect good preparation of the soil, and good cultivation afterwards.

Don't wait too long to plant Potatoes for early crop—better take a few chances of frost. In the family garden a few Potatoes can be planted each week, and in this way avoid risk and secure the earliest results.

Peas can be sowed at once, and new plantings made each week up to June.

Four Melon plants in a six feet cold-frame are enough, and there is no better way than to start them for early fruit in this manner, by which they can be brought along quickly, and be protected, and afterwards fully exposed.

#### A NEW GOOSEBERRY.

Until within a short time it has seemed quite improbable that the English Gooseberry could be successfully raised in this country. To accomplish this feat has sooner or later baffled the efforts of all who have attempted it, and, like raising the varieties of *Vitis vinifera* in the open ground, it has generally been abandoned, and reliance placed only on our varieties derived from native sources, and with such varieties as Downing's and Smith's we should not be badly off if we had no others. Still, the English Gooseberry has been carried to so high a degree of excellence it is a matter of great congratulation that we have already found in the Industry a variety of that class which sustains the trials of our climate and bears abundantly. This variety has been very thoroughly and satisfactorily tested, and at present is becoming widely disseminated.

We now have occasion to call attention to a new claimant of this class, which promises to be equally valuable. This is the Golden Prolific, which the engraving on the next page represents at about two-thirds the natural size.

The original plant of this variety in 1882 was found growing in the crotch of a Locust tree in this city, and was taken and transplanted into the grounds of Mr. JOHN CHARLTON, by whom it has been tested and propagated. The following

localities, and is without doubt a decided success.

It is perfectly hardy, a good grower, and unusually free from mildew. Its foliage is a dark, glaucous green, and in a young state its wood is very spiny, being



GOLDEN PROLIFIC GOOSEBERRY.

statement in regard to it, by Mr. C., has been confirmed by numerous witnesses to the good qualities of the variety :

The seed which produced it was evidently dropped by a bird. It has passed its probation stage, having fruited the past six years continuously in several

very distinct in this respect. Fruit large of a deep golden yellow, of excellent quality, and is very attractive in appearance. It is a heavy fruiter, and is believed to be destined to become as popular as the Industry, and, unlike that variety, it can be propagated successfully.

# OUR YOUNG PEOPLE.

## RACHEL'S REWARD.

IN TWO CHAPTERS.—CHAPTER II.

After Bessie returned home that evening Rachel knew, by the way she followed her around and clung to her, that Mrs. Melville must have spoken to her about going home with her. And because Bessie was not pleading to be allowed to remain with herself, Rachel also knew that her clinging manner was only an expression of the anticipated parting. She could well understand the child's conflict of feeling between her desire to go with Ethel to her city home and her dread of parting with herself.

When at last the evening duties were ended Rachel told Bessie to go and kiss her father "Good night." The child looked amazed. "It's no use to try," she said. "He'll only say it's some of your nonsense and push me away."

"No, he'll not say that now; please go."

Reluctantly the child approached him, saying, "Father, Rachel wants me to kiss you 'Good night.'" He put an arm around his timid daughter and drew her to him, saying, "Whatever Rachel tells you is all right."

"Rachel, what's happened to father?" questioned the astonished child, as she returned. He says everything you tell me is all right; and he called you Rachel instead of Rach."

"O, we've had a little talk to-day, and we understand each other better now—that's all."

After some puzzled reflection, Bessie said:

"Well! I wish you'd had 'a little talk' a long time ago."

Then Rachel went where her brother sat, moody and silent, and said: "Sam, now that father understands me better at last, I do hope you will try to do the same, and endeavor to improve yourself in every way possible, so that when you become a man you can hold up your head with anybody, and Bessie and I never have reason to be ashamed of our only brother. I often think over your good points, and regret they must be so over-

laid with rough manners and speech. You are industrious, almost to a fault—father's right hand man, truly—and you have no ugly vices whatever; and there is no reason why you should grow up like a boor because you live in the country and do farm work. Remember that many of our most famous men spent their boyhood on farms and in log-cabins, as well as in other homes as plain or plainer than ours." By this time Sam began to struggle against the impression his sister's words were really making, and came very near exclaiming, "O, git out o' here with your bosh." But fortunately he restrained himself, and so just missed breaking his sister's heart right there and then. In conclusion, she added: "O, Sam, if you would only try to understand how my advice is for your own future good, I should be perfectly happy. Good night."

Sam grunted. Whether the grunt was a response to good night, or an expression of scorn for her words, poor Rachel could not tell.

When Bessie was finally cuddled in her sister's arms for the night, she whispered:

"Mrs. Melville wants me to go home with her and help take care of Ethel, and she says you know about it. Do you want me to go?"

"No, I don't, and yes, I do. I don't know how to part with my darling; and yet I want you to be in the home of a lady like Mrs. Melville long enough to learn a great many things that I cannot teach you, so that when you are grown you will not be as ignorant as I am."

"You are not ignorant, Rachel, I think you know a great deal."

"O, you dear little goose, that's because you are ignorant too. Every hired girl that has lived in a nice family and waited upon nice people knows a thousand times more about the ways of cultivated folks than I do."

"Mrs. Melville don't say 'hired girl,'" whispered Bessie, "she says 'housemaid.'"

"There! don't you see, child, how much nicer that is; how much more considerate, than to never speak of a girl without dragging in the fact that she is *hired*. It's every little thing like that, Bessie, that I want you to learn and teach me."

"I've learned more than that already."

"What? Do tell me."

"O, so many things different from our ways; let me think—First, I wondered why Mrs. Melville would not allow Ethel to say 'Yes, ma'am' and 'What, ma'am' to her. Then she explained to me that ma'am simply means madam, and that near relatives do not want to be 'madam' and 'sir' to each other, because it is too cold and distant. So she said Ethel must say, 'Yes, mamma,' 'Yes, papa,' and that I could say 'Yes, ma'am' and 'Yes, sir,' because I am no relative."

"Now then," exclaimed Rachel, "don't you see the common sense of that? In that old-fashioned book of our mother's written by an English traveller in this country, I can show you where he says that the best families in this country train their children to use servants' dialect to themselves and other relatives; as, 'What ma'am,' 'No, sir,' instead of 'What, auntie,' 'No, papa.' Mrs. Melville once told me she adopts no custom for the sake of being fashionable, and only makes changes when she sees the correctness or propriety of a thing. So I can trust her ways as being based on good sense. What next?"

"At noon Mrs. Melville had luncheon brought to her rooms. Ethel soon finished eating and wanted to go back to her toys but had to ask to be excused first, because the rest of us were not ready to leave. But you know about this, and always wanted me to do it, only that father thought it foolish. But Mrs. Melville cut my pie in two with the side of her fork, because, she said, that if I could not eat it all I would not like to leave a ragged, mussy-looking piece. And when I commenced to peel a large Apple she said she'd show me a neater way, and an easier one for my little hands. And she cut two quarters out of my Apple for me to peel, and when I had eaten them I did not want the other half, and was glad it was not peeled. She peeled hers round and round the stem, half-way down, and then cut off slices downward as she ate. When she was done the lower half of her Apple was left, too, with the peel on."

"What else did you notice?"

"I'm too sleepy to remember all; let me think. O, yes, Mrs. Melville told the coachman this morning she should go out 'for a drive' again this evening. And when she was talking to the porter about going home she said 'luggage' and 'railway station' instead of baggage and railroad depot. And she calls a dress, 'gown,' and I heard her say to the nurse, 'I thought you sent all the soiled clothing to our laundress when the governess took the boys home.'"

"There it is again! We say dirty clothes and wash-woman."

"Don't you think it would be rather fussy for *us* to talk like that?" asked Bessie.

"No, I don't. We tidy up our rooms and ourselves, and why shouldn't we tidy up our language by choosing as nice words as possible? But I must say you have done well for one day. Now you shall go to sleep; but tell me first whether you want to go home with Mrs. Melville."

"No, I don't; and yes, I do;" answered Bessie. Then they both laughed a little, and agreed to leave that question unsettled until the morrow; and soon both were fast asleep.

But not so, Sam. The new phase of home-life had impressed him more than he liked to acknowledge to himself, and he had to turn the matter over in his rebellious mind a good many times before he could decide upon his future course. "I'll have to git out of here," he thought, "or else fall into the ranks;" and he finally went to sleep on a resoluton to "try it on" for awhile and see how it would work. Of course it "worked" all right, as efforts to please are always certain to. But it was not until a sad accident confined Sam to the house for many weeks, during which he was waited upon by his cheery, patient sister, that he became fully converted to the kindlier and more gentle habits of every day life, and learned that such habits of themselves beget an affable and courteous expression.

While Rachel was dressing next morning a sleepy yawn came from the bed and a sleepy voice said: "I forgot to tell you last night that Mrs. Melville says you are a noble girl, and that she is going to help you in every way she can. And, O, yes;

she said her boys' governess should give me an hour's instruction twice a day if I go home with her."

"Well, that shall decide it," exclaimed Rachel. "What a grand, good woman she is!" Then hastening down to the kitchen she found the kettle boiling and her father sitting by as though already through with his "feeding," while the resonant ax-strokes outside indicated her brother's presence there.

"Good mornin', Rach—Rachel; if it *is* mornin' yet;" and the man actually smiled. Rachel glanced at the clock, and apologizing for having overslept, patted him on the shoulder as she passed, saying, "You must be very hungry waiting so long." Then the happy-hearted girl flitted lightly about, here and there, while her father was trying to further relieve his mind.

"It's b'en the mortgage, Rach—Rachel, all along, that's fretted me so. But I've got right smart of it paid off now, an' I've blazed some plans ahead, so I reckon I kin work my way out without much furder trouble; an' then I'm goin' to fix the place up, an' git a top-buggy for yuh, Ra—Rachel." And so he went on, seeming to find relief in saying kindly words to his daughter at last.

Three months after this came a letter from Bessie which read thus:

MY PRECIOUS SISTER:—I write to you again so soon because Mrs. Melville wishes you to know that another box is shipped to-day by express, with a selection of books for you and some other things. Among them are two loose-fitting sack coats of gray mohair which she thinks you will like to have for father and Sam to slip on at meal time when they are too busy to change working clothes, and too warm for a heavier coat. If you don't want them you are to give them away.

There are always so many things to tell you that I can only write each time what happens to be fresh in my mind. Yesterday the governess sent one of the boys to his mamma because he had opened a letter of his brother's from their papa, and

read it during the brother's absence. Mrs. Melville looked very serious and grieved as she reminded the boy of the personal rights she had taught them both to respect. "You are never," she said, "to tamper with each other's purses, nor watches, nor letters—nor those of anybody else—never. Neither must you disturb each other's private treasures, even though the drawers be left unlocked. Always be on your honor. You each have a right to your little possessions. They are your very own. You may loan, or barter, or sell to each other, but always be honest and honorable about it. Never again while you live open a letter, nor a package either, that does not belong to you. And if I find that you are tricky when playing games, you shall not play a game of any kind for a month." And this is the way she trains her boys.

Something else I want to tell you. Mrs. Melville had to stay with a poor sick woman past meal time, and the young daughter urged her to eat, and she says she hasn't enjoyed a meal so much for a long time. I thought of you because you said once you wouldn't know how to get a meal for a lady like Mrs. Melville. Well, she says there was a plain, but very smooth white cloth, napkins made from the borders of another one, neatly cut bread and butter, and two or three dishes served on plain white ware and prettily shaped glass dishes, all shiningly clean; and a goblet of Morning Glories with a trailing vine hanging over one edge of the table. She says she enjoyed it because everything was so exquisitely neat. So, dear sister, you need never be afraid to do the best you can for anybody. Mrs. Melville says the best class of people care more for principle and good sense than for style or fashion.

And now, good-bye; I suppose I shall go to the sea shore soon with the family, and when I return I am to visit you. With love to father and brother Sam, good bye again from

Your loving sister,

BESSIE.

MARIA BARRETT BUTLER.

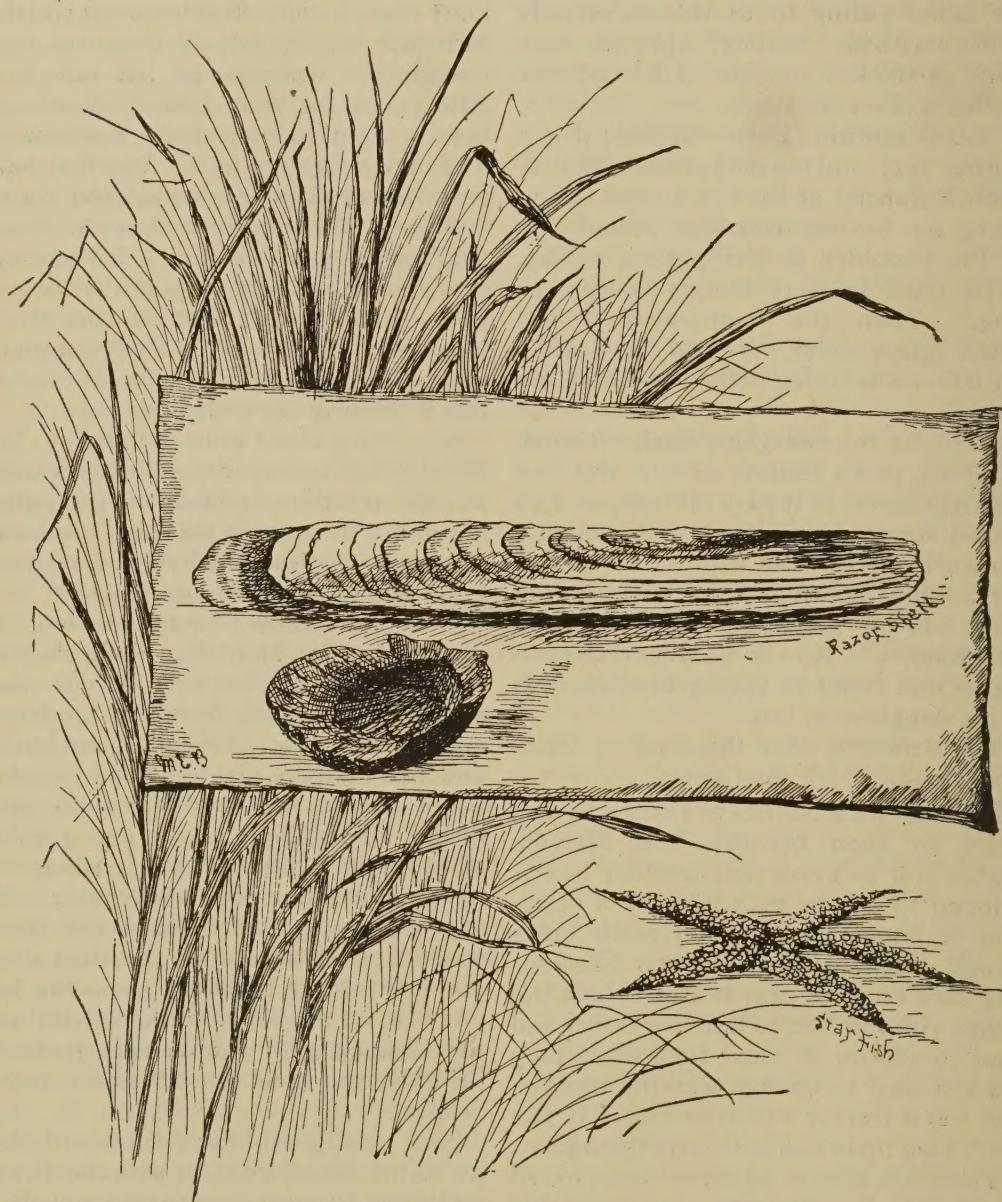
### SOLEN, OR RAZOR SHELL.

These shells are found on the sea shores of nearly all countries except those of the coldest regions; some of the

species are exceedingly beautiful, particularly those of the tropics. They are very curious in appearance, some scarcely

more than an inch in length, while the breadth will be eight inches or perhaps even more, and are given the name of Razor Fish, or Razor Shell, from the peculiarity of their shape. They make their burrows straight down in the sand,

Another curious, but familiar fish is the Star Fish, so named because of its shape. One of its great peculiarities is that if by any means a ray is broken off, or even if it should lose two or three, they will again be replaced by others, and the form



SOLEN AND STAR FISH.

and through this passage they ascend, and descend by means of the long foot with which they are provided.

The fish are used for food and also for bait by fishermen. Their method of catching them is either with a long hooked rod, or by sprinkling salt in the burrow, the latter causes the creature to leave the hole in the sand, and immediately upon its appearance it is seized.

of the whole will be as perfect as ever.

The mouth is on the under side of the fish, therefore it lives on the sands, or is found clinging to the rocks. They are very voracious and greatly annoy fishermen by devouring their bait.

They are strange objects, and when looking at them lying motionless it seems almost impossible to believe that they are living creatures.

M. E. B.

## GROW, AND KEEP ON GROWING.

The sun shone out on a clear March day,  
And sent his beams, so cheery,  
Straight from the heavens so far away  
Through a snow-bank damp and dreary,  
Down, down and down through the forest mold,  
Though the chill west winds were blowing,  
And said to the small seeds hidden there,  
"Grow, and keep on growing."

The seeds sprang up at the earnest call,  
And the white roots burrowed lowly  
In the deep, damp soil, poor patient things,  
But the plants crept upward slowly;  
They timidly peeped above the ground  
And sighed, "It has just been snowing;  
We'll snuggle back," but the sun sent word  
"Grow, and keep on growing."

Then the tiny mouths of the slender roots  
Drank of the moisture springing  
Amid the moss—the earth's sweet soil  
The food for their fruitage bringing.  
But creeping thus in the dark, they found  
Boulders their path bestrewing;  
"We'll rest," they said; but the sun said "No!  
Grow, and keep on growing."

Then upward shot a spire of leaves,  
And there 'neath the sun unfolding,  
A tiny Oak spread its branching boughs,  
A sight well worth beholding.  
Soon tow'ring high—a forest king—  
It made a noble showing,  
Through heeding this earnest message well,  
"Grow, and keep on growing."

If a weight of woe or the winds of care  
Check the soul in its upward springing,  
Send the roots of the heart to take stronger hold,  
A sweeter nutrition bringing,  
Then fill the soul with all right desires,  
Aspire—for there is no knowing  
How high shall mount the soul that strives  
To grow, and keeps on growing.

DART FAIRTHORNE.

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## BLUE VIOLETS.

I have been on the hill,  
Where sleep the dear ones whom we miss so much,  
To see if spring had made the Violets thrill  
To new life at her touch.

The snow lay here and there  
In shadowy nooks where sunshine feared to go,  
But where the sun had kissed the sod, and where  
The grass began to grow,

I found some shy, pale blooms  
Sweet with the fragrance of a summer dead,  
Or was it but the memory of perfumes  
That stirred their hearts, instead?

As I gathered there  
The Violets to make bright my lonely room,  
I thought, each blossom is a tender prayer  
Breathed upward from the tomb.

I felt a soft wind blow;  
From every blossom rose a fragrance rare,  
And all the world, that moment, seemed to grow  
Sweet with her flower-told prayer.

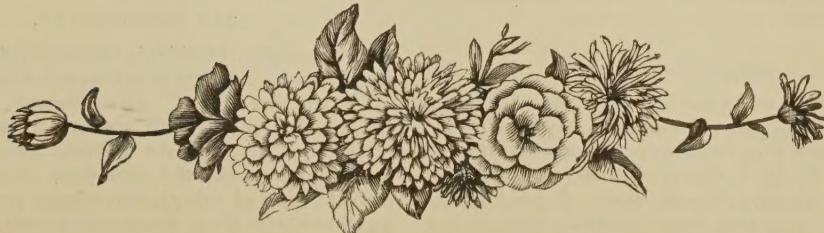
For this I hold as true:  
Our loved ones who have heard the call of God  
Will not forget to think of me, or you,  
When hidden by the sod.

But from their peaceful rest  
They pray for us, and every loving prayer  
Becomes a flower to blossom o'er their breast,  
And scatter fragrance there.

On one low grave, to-day,  
How many tender Violets met my view,  
And every one looked up and seemed to say,  
"She thinks of you."

Ah yes, she thought of me.  
Perhaps, who knows? she heard my lips repeat,  
"Dear heart, if sleeping, may thy slumber be  
A peaceful one and sweet."

EBEN E. REXFORD.



## EDITOR'S MISCELLANY.

### TESTING FRUITS.

Dr. Collier, Director of the New York Experiment Station, at Geneva, N. Y., announces in Bulletin No. 15, that the Station has entered upon the work of testing the varieties of fruit of all kinds adapted to this latitude. The test will include the well known as well as the newly introduced varieties, and, also, those new varieties that have not yet been sent out, and which may be supplied to the Station by the originators of such fruits for the purpose of testing.

This Station is well located for this purpose, and its tests will undoubtedly prove to be valuable.

The originators of new fruits are informed in the Bulletin that "varieties that are being propagated for introduction, but which have not yet been offered for sale, are especially desired, in order that the results of tests may be available to the public as early as possible. It is understood that the plants or trees of all varieties sent for trial are the exclusive property of the Station for trial purposes, but not for dissemination."

This will be an excellent method for originators of new fruits to get them before the public, and they should take advantage of it.

This Bulletin will be supplied, on application, to those who may request it.

### PUBLICATIONS RECEIVED.

*Journal of the Columbus, O., Horticultural Society*—the issue for March and April, 1888.

*A Record of some of the Work of the Botanical Division, Bulletin No. 8, of the United States Department of Agriculture.* Also, from same source, *Insect Life, No. 8.*

*Bulletin of the Agricultural Experiment Station* of the University of Minnesota. No. 6, February, 1889.

*First Annual Report of the Agricultural Experiment Station* of Delaware College, Newark, Del.

*Garden Vegetables*, by M. B. Faxon, Boston, Mass. An essay, delivered before the Massachusetts Horticultural Society, January 28, 1888. A large portion of this essay was published in our March number of last year.

### SECRETARY RUSK.

The Secretary of Agriculture in the new administration is Jeremiah M. Rusk, of Wisconsin, a farmer from boyhood, but who has served in important positions in the army and the State. He was a Major in the 25th Wisconsin Regiment, and performed efficient service in the war. Afterwards he was Bank Comptroller of Wisconsin. From 1870 to 1876 he represented his district in Congress. After the expiration of his term he returned to his farm, but was again called away from it in 1881, to act as Governor of the State, which position he filled for six years. He has always taken a great interest in agricultural advancement. As an intelligent farmer, he knows what the agricultural community need, and those who know him best believe he has rare qualifications for his new office.

### BUSINESS METHODS.

A valuable book, arranged especially for young people, yet by no means unsuited to any time of life, entitled *Every Day Business: Notes on its Practical Details*, by M. S. Emery, will be published soon by Lee and Shepard, Boston, Mass. It gives careful instruction regarding many matters closely con-

nected with business transactions. The book will be a valuable companion for young people, and its pages will contain instructions on business subjects, being designed for ready reference, and also as a text book for use in schools. No class of the community has greater need to give attention to business methods than the country dwellers; farmers, gardeners and fruit growers can attend with the greatest advantage to the details of the best business methods in their affairs.

### JONATHAN AND HIS CONTINENT.

This very humorous and brilliant sketch of impressions of this country and rambles through American society, after a six months' visit, last year, by Max O'Rell, author of *John Bull and his Island*, cannot fail to interest every reader. It goes without the saying that it is full of exaggerations and misstatements, but accuracy is never aimed at; it must be intensely interesting to the French people, as well as amusing to us. The witty Frenchman has sketched with a free hand, and his production induces both surprise and merriment. It is impossible, in a short notice, to give any accurate idea of this entertaining book, and we advise all who want some lively reading and side-splitting stories to procure it, read and enjoy it. Published by Cassell & Company, New York.

### ART STUDENTS.

Amateur art students may be pleased to know that a great competitive prize exhibition of paintings is to be held in January, 1890, in London. Prizes amounting to five hundred guineas, and one hundred diplomas, will be awarded.

This exhibition is confined strictly to art students. Here is a chance for them to make their talents known.

A preliminary exhibition of the American exhibits will be held in November, 1889, at the American Galleries, Madison Square, New York. The exhibition is instituted by the fine art publishers, Raphael Tuck & Sons, and circulars and full information in regard to it can be had by applying to their New York house. Address, Raphael Tuck & Sons, 298 Broadway, New York.

### CATALOGUE OF ROSES.

In their very complete spring catalogue of Roses, Ellwanger & Barry offer for sale the handsome Hybrid Rugosa Rose, Madame Georges Bruant, figured and described in our pages last year.

They also offer a number of the most promising new kinds among the classes of Hybrid Remontants, Hybrid Teas, and the Teas, and a large general stock as well. They also announce a grand display of several acres of Roses on their grounds the last three weeks in June and first two weeks in July, and visitors are welcomed.

### THE COSMOPOLITAN.

St. Augustine, Florida, is beautifully described and charmingly illustrated in the March *Cosmopolitan* as a "City of Sea Shells." Allan Forman, the writer of the article, speaks with ardent enthusiasm of the picturesque scenery, the historic associations, the colossal hotels, and the salubrious climate, and the main features of this popular winter resort are pictured by Harry Fenn, Blum, and several other artists.